

WESTERN INDUSTRY



Kinematic viscosity test of lubricating oil in a Long Beach, California, refinery, by determining rate of flow through capillary tube.

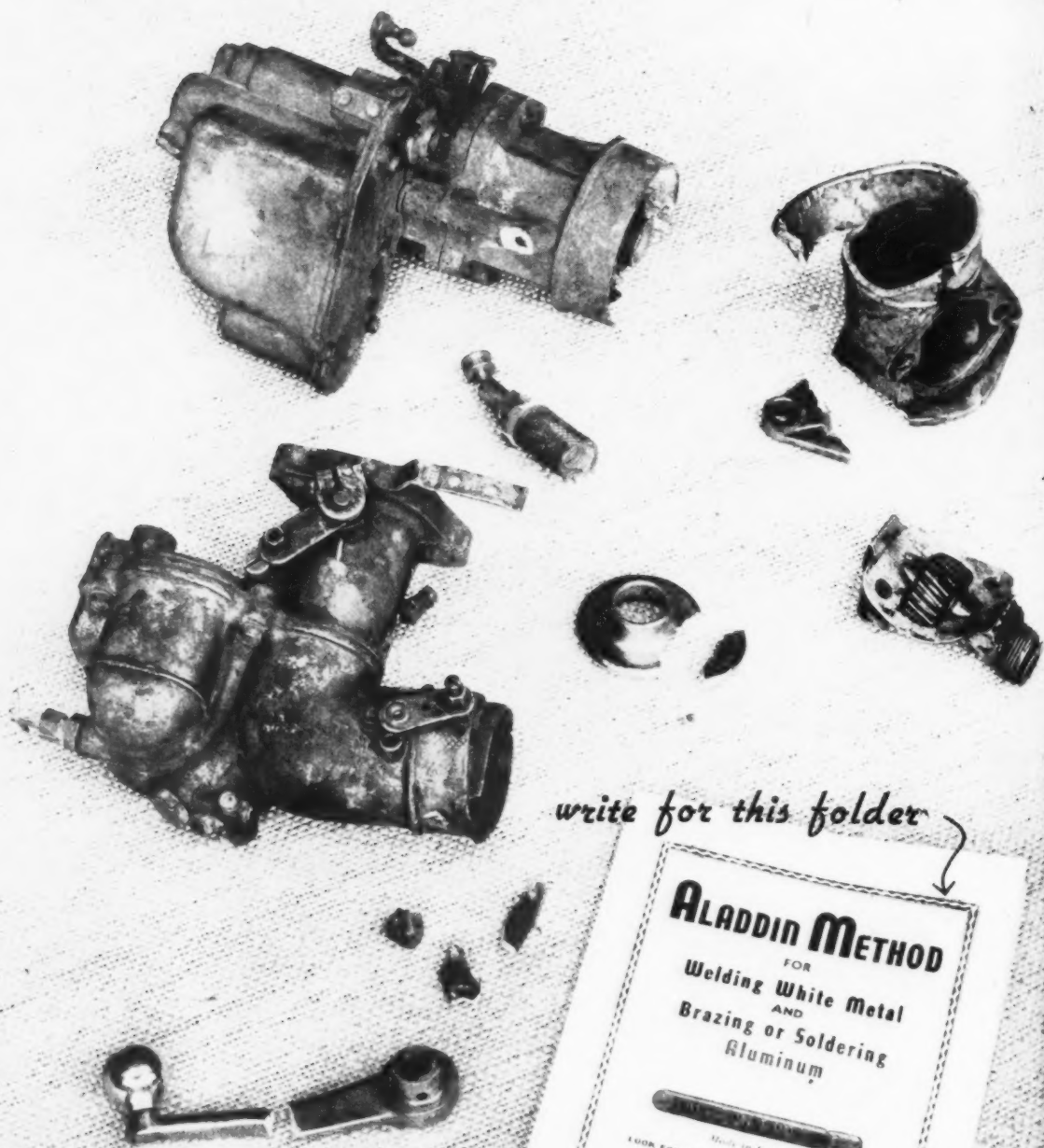
Forty-five Cents

VOLUME XI

NUMBER 10

October, 1946

how would you weld these . . . ?



write for this folder



VICTOR EQUIPMENT COMPANY

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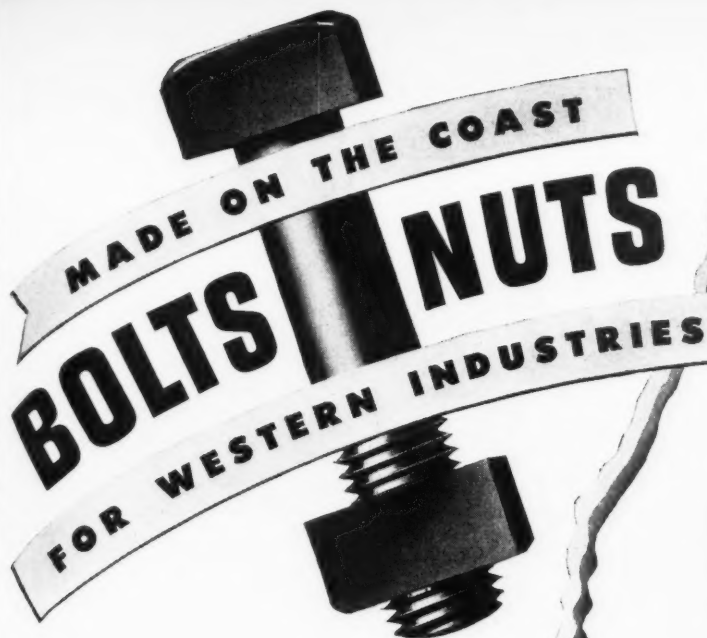
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In Southern California
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LOS ANGELES 11



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This map shows the plant locations of the Coast's largest full-line manufacturer of bolts and nuts—Bethlehem Pacific.

With these well-situated plants Bethlehem Pacific is an economical, dependable source for all types of fastenings needed by Western jobbers, manufacturers, builders and railroads.

Bethlehem Pacific makes...

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TRACK SPIKES PIPE BANDS
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BETHLEHEM PACIFIC

★ Seattle



Seattle, Bethlehem Pacific Bolt and Nut plant serving the entire Northwest.



Interior of Bethlehem Pacific's South San Francisco Bolt and Nut plant, showing equipment for cold-heading, threading, pointing, and trimming bolts.

San Francisco



South San Francisco location of this Bethlehem Pacific Bolt and Nut Plant makes possible excellent service to the Central Coastal Area.

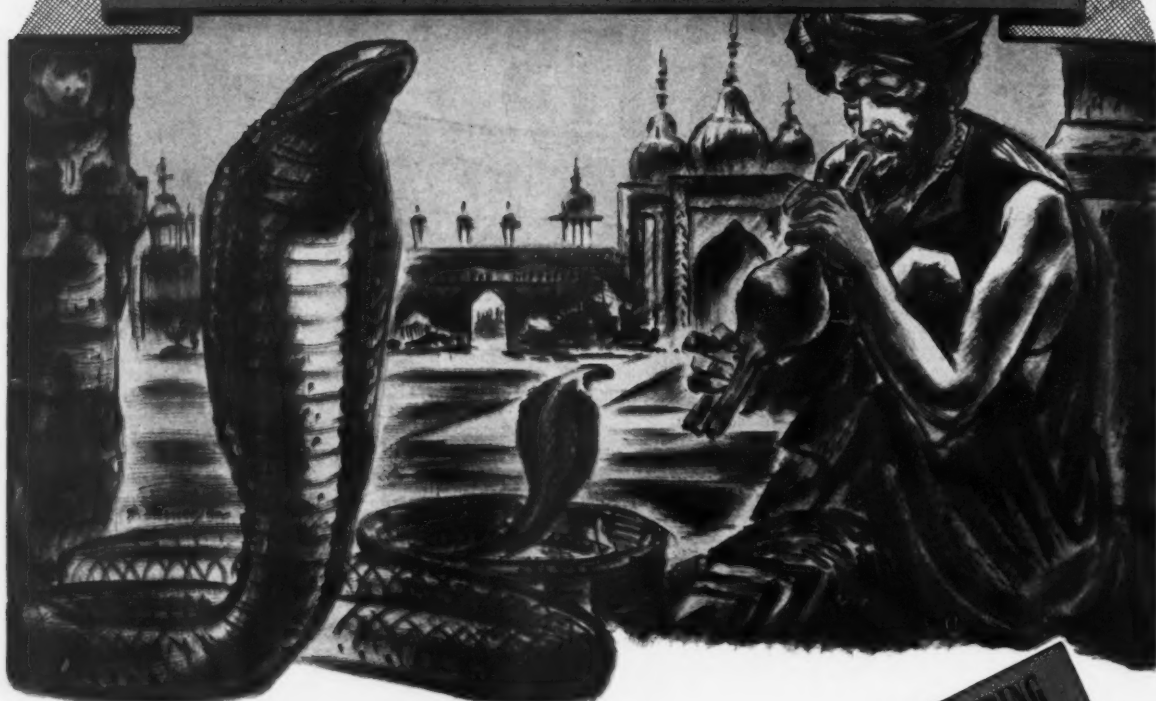


Los Angeles, Bethlehem Pacific Bolt and Nut plant for service to the South Coastal Area.

★ Los Angeles



..but COBRAS ARE DEAF!



it's the PERFORMANCE that COUNTS...

Every snake charmer knows it is the PERFORMANCE he gives that builds his reputation. He spends months rehearsing. Since his cobras, in the conventional sense, cannot hear, he teaches them to imitate his rhythmic swaying — the tone of the reed instrument tends to add to the mystic.

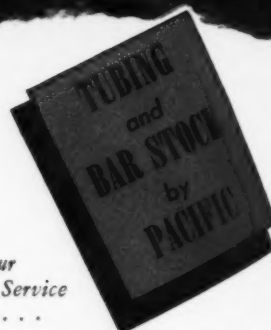
Wise manufacturers know it is the PERFORMANCE of their products that counts in building a reputation. Pacific Tube Company, the West's *only* steel tube mill, has spent years perfecting the performance of hundreds of products produced by many manufacturers by supplying quality tubing for a given purpose.

For information on availability and how you may cut fabricating or processing costs with steel tubing or bars, contact . . .

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WESTERN INDUSTRY—October, 1946



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Customer Service
Dept. on . . .

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Stainless Steel Tubing, Cold Finished
Bar Stock.

This Month in WESTERN INDUSTRY

VOLUME XI

OCTOBER, 1946

NO. 10

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Front Cover

Beatrice Bates, laboratory technician at McMillan Petroleum Corporation, Long Beach, California, is making the kinematic viscosity test illustrated on the front cover. The flow through the capillary tube is at a constant temperature which is maintained by an agitated liquid bath.



Wire ahead!

to keep in step

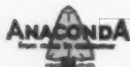
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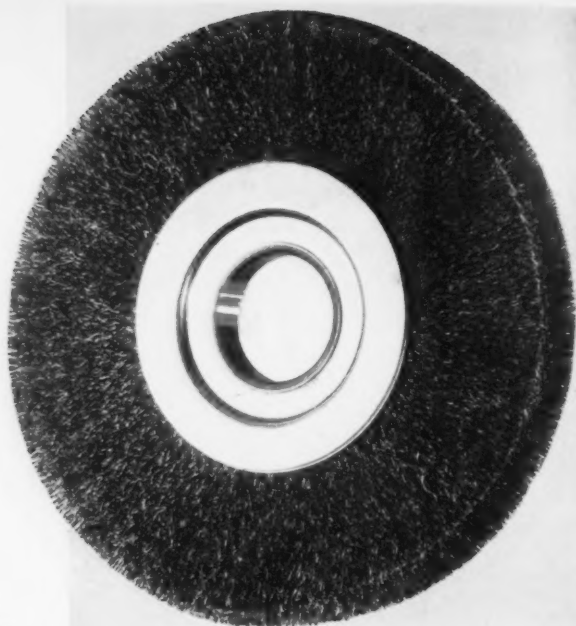
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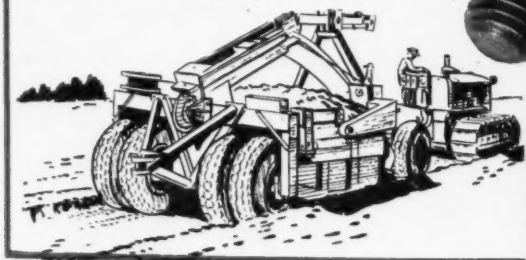
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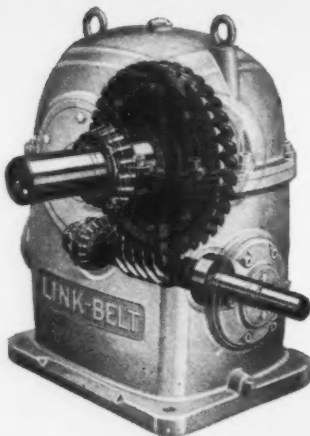
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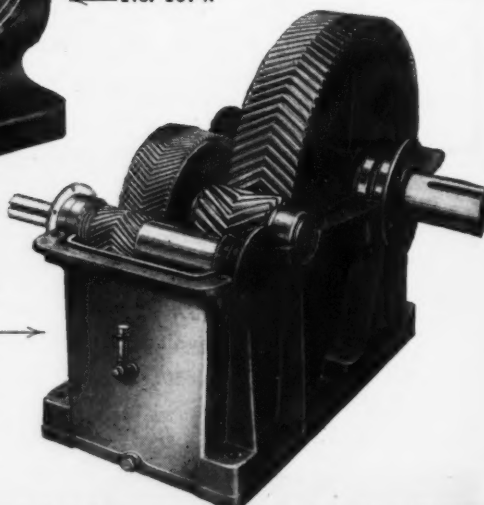
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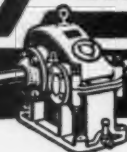
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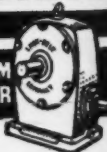
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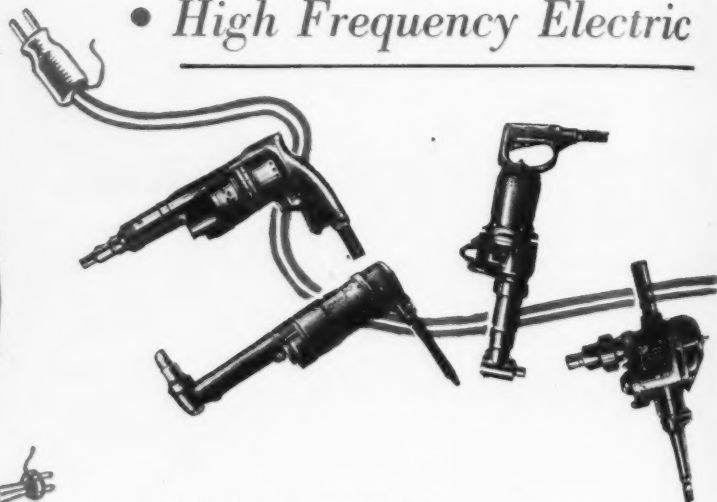
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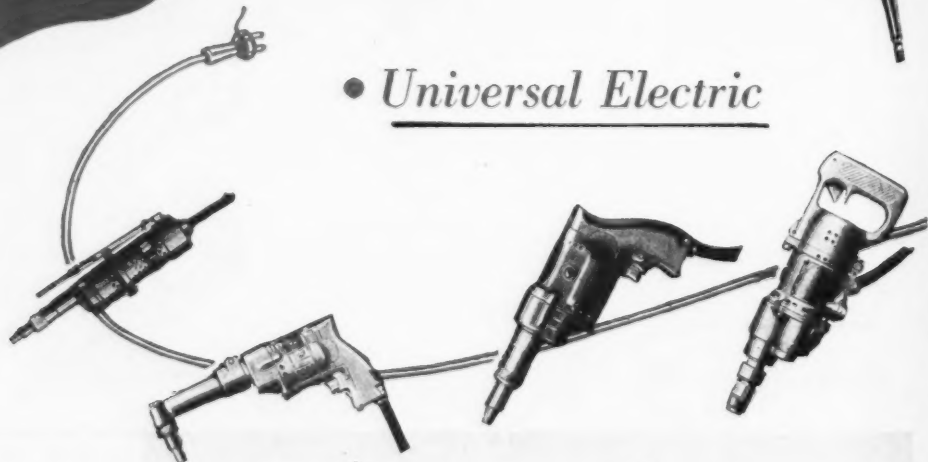
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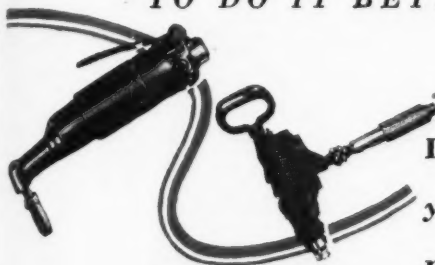
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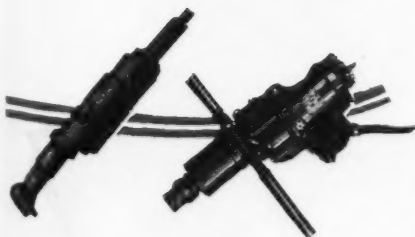
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October, 1946—WESTERN INDUSTRY

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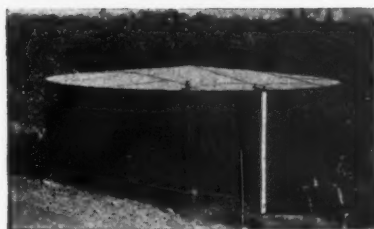
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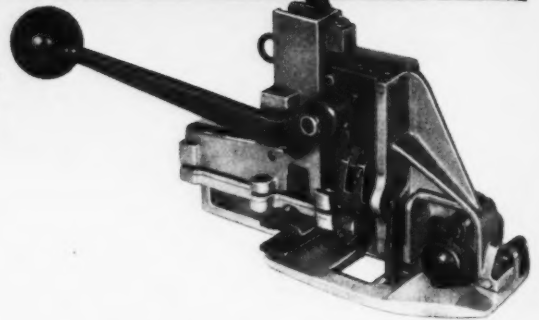
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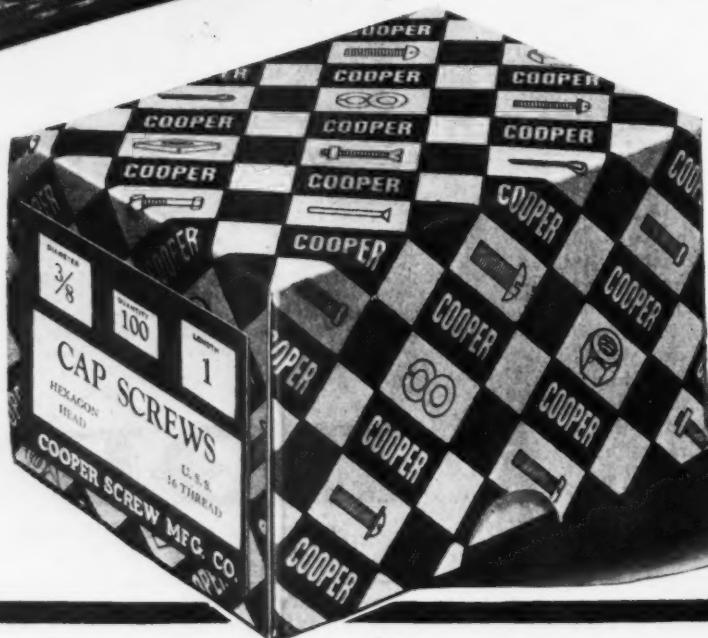
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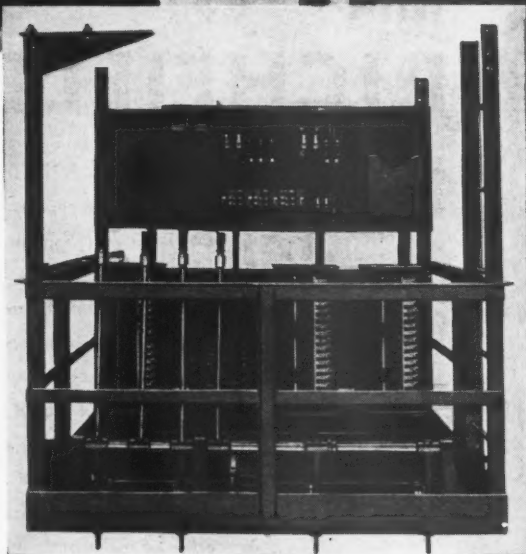


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Write for samples and complete data.

*can be fabricated without
injury to the sheet . . .*



**ROOFING
SIDING
FLASHINGS
VENTILATORS**

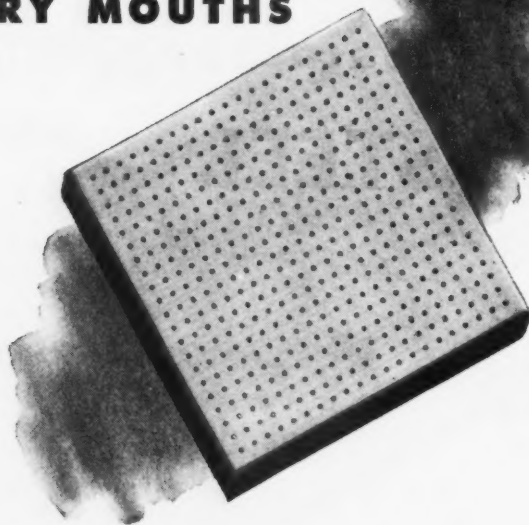


PLASTEEL PRODUCTS CO.

General Office and Plant

Washington, Pennsylvania

441 HUNGRY MOUTHS



THAT EAT UP
NOISE

You're looking at a single Acousti-Celotex* 12" x 12" tile . . . *the* famous perforated fibre tile and most widely used of all sound conditioning materials.

Each of those 441 holes swallows noise . . . digesting it in a labyrinth of cane fibre. Thus sound has no chance to echo. Words remain clear and audible. Listening quality is vastly improved.

Offices, factories—everywhere have remedied their noise problems by Sound Conditioning with Acousti-Celotex fibre tile. Applied directly to ceilings it soaks up noise, and prevents echoes. Its soothing quiet relieves irritating sounds that cause emotional strain. It increases the efficiency and calm of everyone in the room.

Acousti-Celotex can be quickly applied to ceilings and other surfaces without disturbing routine. It can be repeatedly painted without loss of efficiency.

Why not talk over your acoustics problem with your nearest Acousti-Celotex distributor? He is a member of the world's most experienced acoustical organization . . . and he *guarantees results!* No obligation, of course! A phone call or note will bring him to your desk.

Distributors of Acousti-Celotex in the West

ASBESTOS SUPPLY COMPANIES
SEATTLE • TACOMA • PORTLAND • SPOKANE • MISSOULA

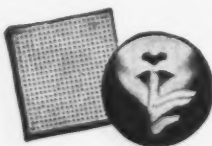
JAY GREAR CORPORATION
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LAUREN BURT, INC.
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WESTERN ASBESTOS COMPANY
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Sound Conditioning with
ACOUSTI-CELOTEX
** Perforated Fibre Tile* REG. U.S. PAT. OFF. SINCE 1925

REVERE TUBE FOR ELECTRONIC USES

The tubes shown here happen to be made of aluminum. We also furnish round, square, rectangular and special shapes in magnesium, copper, copper alloys and welded steel.

Revere tube may be used for structural purposes in radio equipment, and for parts such as shafts, rivets, soldering and solderless connectors and conductors.

In addition to tube, we also supply to the electronic industry rod and bar, sheet and strip, in copper and its alloys, for use in variable condensers, vacuum tubes, anode radiators, transmitter and receiver shields, sub-bases and similar parts. Of special interest at present is the new Revere Free-Cutting Copper, setting new standards in quick, economical and accurate machining.

We have assisted a number of manufacturers in the electronic industry solve difficult problems encountered in the selection and working of aluminum, magnesium, copper and its alloys. Through the Revere Technical Advisory Service similar cooperation is offered to you without obligation.

REVERE

COPPER AND BRASS INCORPORATED
Founded by Paul Revere in 1801

230 Park Avenue, New York 17, N. Y.
Mills: Baltimore, Md.; Chicago, Ill.; Detroit, Mich.;
New Bedford, Mass.; Rome, N. Y.—Sales Offices in
Principal Cities, Distributors Everywhere.—Pacific
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Listen to Exploring the Unknown on the Mutual Network every Sunday evening 6 to 6:30 p. m. PST.

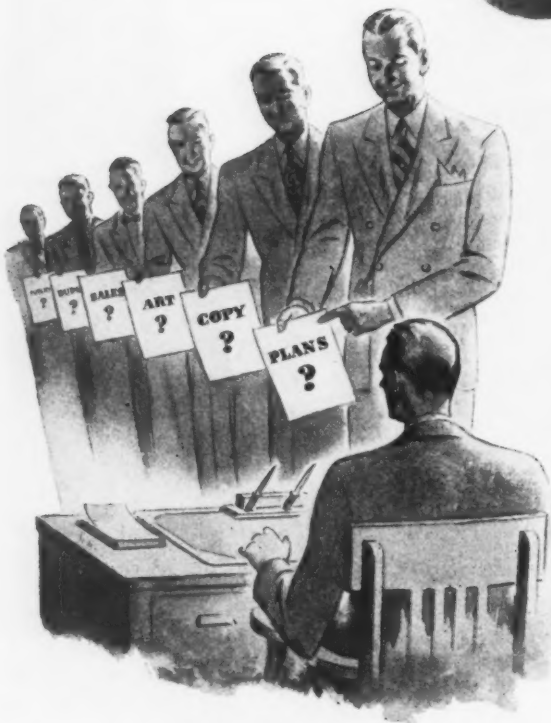
WHAT *is it an* *advertising agency* SELLS?

There are two answers: Either an advertising agency sells merchandise for its clients or else dissipates its energies selling itself.

When the agency effectively promotes the movement and sale of its clients' goods and services to the proper market, it lives, grows and prospers *naturally*. Its virtues are written in historic fact... not in promises.

The McCarty Company invites you to study its record. The sound expansion experienced by modern progressive companies, whom it has counselled for over a quarter of a century, is direct evidence of right planning and clean cut development.


The McCarty Company is equipped to step forward into a new era of western and national business achievement. It is helping its clients to exploit their now rapidly advancing sales opportunities. If you are looking ahead to the same goal, let us look at the picture together!



The McCarty Company *Advertising Counsellors*

ESTABLISHED 1919

LOS ANGELES • SAN FRANCISCO • SEATTLE • DALLAS • PITTSBURGH



For
Insulation
Jobs, too..



**IT HAS TO BE RIGHT
THE FIRST TIME**

...the skill of the J-M Insulation Applicator makes the difference!

Only when it's properly applied can even the finest insulation provide maximum fuel savings and operating efficiency.

The right insulation for every application

Your J-M Insulation Applicator selects the right materials for your job from the wide variety in the J-M industrial insulation line (for temperatures from 400° F below zero to 2,800° F above).

Johns-Manville Insulation specialists, plus the facilities of the J-M Research Laboratory, are available to help you with your particular insula-

tion problems, regardless of how complex they might be.

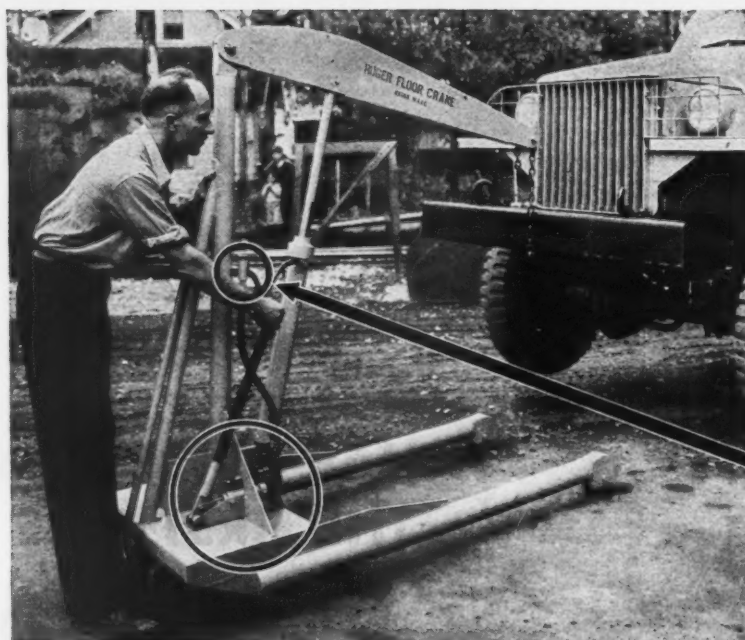
Expert application of the right insulation

J-M Insulation Applicators offer this double assurance of a completely efficient job: (1) They are trained in all phases of insulation application. (2) They employ skilled mechanics and the most up-to-date methods of application.

For further details, write your nearest J-M Insulation Applicator or Johns-Manville, Box 290, New York 16, N.Y.



JOHNS-MANVILLE *First in* **INSULATIONS**



★ The New Model one-ton Ruger shown lifting the front end of a 2½ ton Army truck weighing approximately 9000 lbs. Arrow indicates Fingertip control of Release valve.

RUGER *Hydraulic* FLOOR CRANE Features *Sensational New Model Pump*

For months our designers have been perfecting a New Model Ruger Crane. Here is the answer—a new one-ton Model with greater power and 78 pounds less weight. Its chief feature is a new pump built to Ruger specifications. The new pump eliminates the tank, gives equal or better lifting speed and has better than 95 per cent pump efficiency. The release valve is placed at fingertips—eliminates stooping. More than 1000 units of this Model are now in use—without one case of breakdown or pump difficulty. Ready for early delivery—place your order for the New Ruger—Now!

- ★ Saves 78 pounds in freight
One ton Model weighs only 472 lbs.
- ★ Better than 95% pump efficiency
- ★ Fingertip control of release valve
- ★ Increased power and lifting speed
- ★ Designed for consistent manhour savings

**SEND FOR FREE
FOLDER TODAY!**

RUGER EQUIPMENT CO., Inc.
Industrial Department
P.O. Box 3821, Portland 8, Oregon

Please send me your folder with complete details and prices on Ruger cranes.

Name.....
Address.....
City..... State.....



RUGER EQUIPMENT CO., INC.

INDUSTRIAL DEPARTMENT

P. O. Box 3821

Portland 3, Oregon

If you
make it of

WIRE

make it of the best!

... And the best wire for you, of course, is the wire that will help you put your product out in front in a competitive market. Whether you make bicycles or birdcages, bolts or nails, tire chains or corn poppers, there is a U·S·S American Manufacturers' Wire that will meet your needs precisely.

When you specify U·S·S American, you get more for your money in three ways:

1. **Versatility**—You can select exactly the right wire from among more than 400 different types, comprising every conceivable shape, size, finish and metallurgical characteristic.
2. **Quality**—You know the wire is *good* wire, backed by over a century of steel-making and wire-making experience.
3. **Service**—Our specialists are always at your service—*gratis*—to help you select and use the wire best suited to your purpose.

Today is none too soon to begin giving your product the benefit of the best steel wire money can buy. Write for a free consultation.

COLUMBIA STEEL COMPANY

San Francisco · Los Angeles · Portland · Seattle · Salt Lake City

AMERICAN STEEL & WIRE COMPANY

Cleveland · Chicago · New York

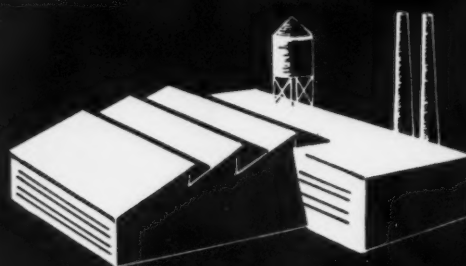
Tennessee Coal, Iron & Railroad Company, Birmingham, Southern Distributors

United States Steel Export Company, New York

UNITED STATES STEEL



for all high temperature lubrication



Cycol Heat-Resisting Litho Grease

A soft grease with abnormally high melting point, *Cycol Litho Grease* withstands almost twice the heat of average lubricants. It also maintains a higher resistance to

steam, hot water, acid, and fumes—has a greater affinity for metal. Available in NLGI Grades One, Two, and Three, for cup grease use *throughout your plant*. A telephone call to your local Associated Representative will bring full information on usage, container sizes, and price structure.

An Important New Service— ASSOCIATED'S "COLOR GUIDE" LUBRICATION PLAN

A new, continuing service that improves the efficiency of your plant's entire lubrication operation. Includes a free plant survey, installation of color guides on equipment, lubrication record cards. *Ask us about it.*

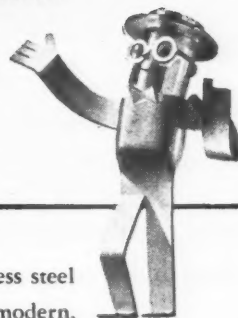
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**TIDE WATER
ASSOCIATED
OIL COMPANY**

WANT STAINLESS STEEL CASTINGS QUICKLY?

NEW SOLAR SERVICE FOR SOUTHERN
CALIFORNIA MANUFACTURERS



Solar does *not* claim to make stainless steel castings any faster than an equally modern, well-equipped foundry. But we *can* give your order *immediate attention*... whether you need simple castings (up to 300 lbs.) or have a complex problem needing the assistance of our engineers.

For 15 years Solar has specialized in working with stainless steel, solving many problems that "couldn't be done." Now our stainless castings foundry is available to *you*... complete with latest type molding, pouring and centrifugal casting equipment. Additional facilities include heat treating, pickling, sand blasting and tumbling. X-ray inspection is available if needed. Call or write Solar, San Diego, today. (Phone: Franklin 1305)

SOLAR DIVISIONS AND SUBSIDIARIES

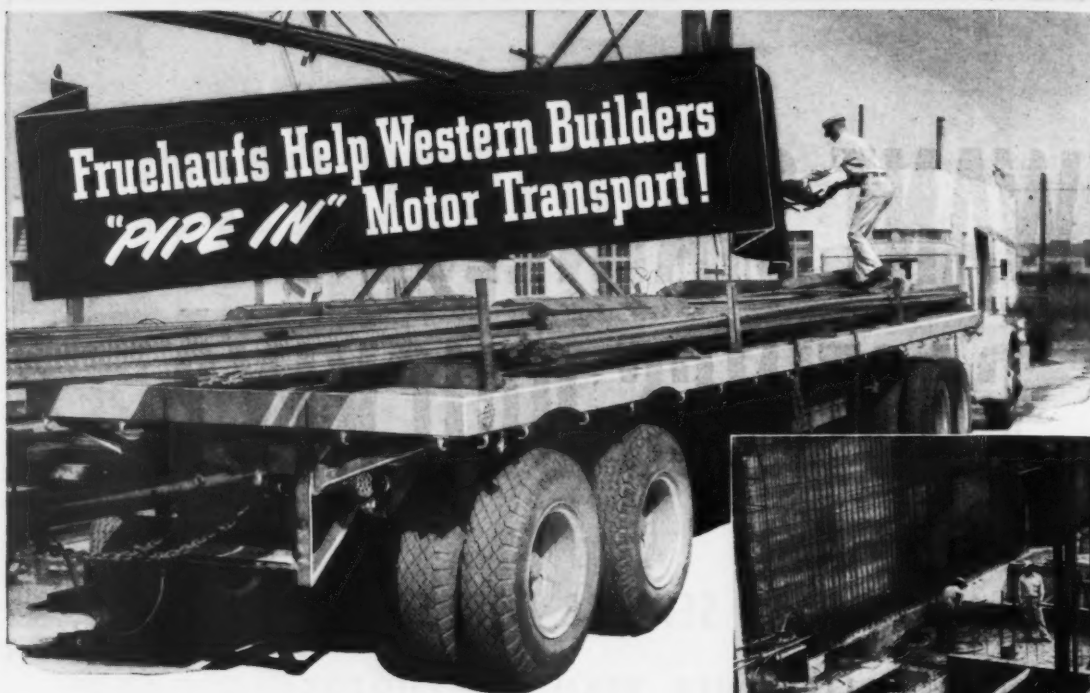
Aircraft Manifold Division • Dairy Equipment Division
Fonda Film Processing Equipment Division • Hubbard
Casket Company • Precision Castings Division

STAINLESS CASTINGS DIVISION

SOLAR

STAINLESS PRODUCTS

SOLAR AIRCRAFT COMPANY • SAN DIEGO 12, CALIFORNIA



WITH MATERIALS so limited that government restrictions permit only "essential" building, it is doubly important, today, that new projects and remodeled plants be designed for modern mass production.

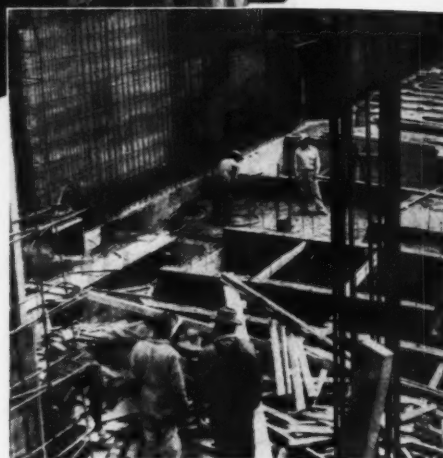
To insure the smooth flow of *incoming* materials and *outgoing* products, Truck and Trailer transportation must be "piped in" to the buildings. Properly located shipping and receiving docks are as essential as the production lines themselves, if these "highway freighters" are to link suppliers and consumers directly.

CONSULT YOUR TRAFFIC MANAGER

Extremely helpful in discussing this subject is your Traffic Manager. He can tell you, before plans reach the blueprint stage, how ample provision for Truck-Trailer shipping will save you money by avoiding expensive delays.

PROFESSIONAL HAULERS CAN HELP

And, talk it over with an experienced professional motor carrier such as Fred Russell, of Russell Truck Co., Los Angeles. He has been hauling structural steel



Fruehaufs in the Russell Truck Company fleet keep reinforcing steel moving to West Coast construction jobs. Many loads weighing 20 tons are moved with ease.

for building erection by Truck-Trailer since 1919. Huge plants at Torrance and Fontana are examples. He also hauls miscellaneous merchandise to and from many of the factories his eight Fruehauf Trailers helped to build.

From Fred Russell's 27 years experience, hauling everything from crackers to I-beams, he can point out the advantages of "building in" motor transport when the plans are drawn.

World's Largest Builders of Truck-Trailers
FRUEHAUF TRAILER COMPANY
Western Manufacturing Plant—Los Angeles

SALES AND SERVICE BRANCHES

LOS ANGELES • SAN DIEGO • SAN FRANCISCO
SALT LAKE CITY • FRESNO • PHOENIX • SEATTLE
BILLINGS • PORTLAND • SPOKANE • DENVER • EL PASO



"Engineered Transportation"

In Our Mail Box

Somebody Has to Pay the Bill

Editor, *Western Industry*:

Regarding the article by your Denver correspondent in the August issue of *Western Industry*, which contains some critical comment on the train service between Denver, Cheyenne, Wyoming and Montana points:

Prior to the war a fast train was run over this line during the summer months, and the patronage was studied very closely. Even with the vacation travel between Colorado on one hand and Yellowstone on the other, the traffic was insufficient to support the service and the train did not make expenses.

The cost of lightweight, high speed equipment, together with the cost of service and maintenance of such trains is very high. At least 100 revenue passengers on the average are necessary to justify such a train. Experience and passenger data indicate that there would not be anywhere near such a volume of travel on the route in question.

How to improve the service on this line is, however, a subject of continuous consideration. Lines of thin traffic such as this are among the first to feel the effects of the diversion of rail traffic resulting from highways and airways provided largely at public expense. In many instances there simply is not enough business to support all, and it is extremely difficult for a railroad, which must bear all its own expenses and also pay taxes, to compete with other forms of transportation, a substantial part of whose facilities are furnished tax-free and with little or no user charge.

RALPH BUDD
President, Burlington Lines.

Several Ways to Skin a Cat

Editor, *Western Industry*:

While we haven't advanced quite as far in our thinking as your artist's suggestion (rocket planes, "Air-Freight" cartoon, July issue) on how to handle the Geneva freight problem, we have given more than casual consideration to the possibilities of other forms of transportation which might offer some real competition to the railroads.

However, we have so far found no cause to proceed in that direction, since we have every reason to appreciate the cooperative attitude of the railroad companies with which we have been doing business so far. We certainly hope that the applications for freight rate revisions which are being processed currently will lead to a mutually satisfactory result.

WALTHER MATHESIU, President
Geneva Steel Company
Geneva, Utah.

Commonsense View on Labor

Editor, *Western Industry*:

I think George O. Bahrs sets forth a very common sense viewpoint in his labor article ("Labor Legislation Needed That Will Be Fair to Employers, Too," *Western Industry*, August, 1946), and I believe that it is the type of thing which management at large might well get in back of and push.

R. G. KENYON, Vice-President
Southern California Edison Company
Los Angeles.

Campus Eyes the Campaign

Editor, *Western Industry*:

The first four paragraphs of the article "Industry's Stake in Western Congressional Elections," by W. G. Herron, appearing in the

(Cont'd on Pg. 33)

EDITORIAL COMMENT

Looking Facts in the Face

CONGRESS wields a tremendous influence in the industrial and business life of the country as a whole, and especially in the West in its present stage of industrial growth. Yet business men find it difficult to comprehend Congress or deal with intelligently.

Their difficulty arises from failure to understand two fundamental things about Congress. The first is that Congress is virtually an aggregation of semi-autonomous committees in which the fate of most legislation is decided regardless of whether the measures ever reach the floor of either the House or the Senate. The second is that the power and influence of the individual Senator or Congressmen is in direct ratio to his seniority in the majority party, and that seniority in the minority party has a similar but reserve value which comes into being when party control of Congress changes.

Consequently considerable space has been taken in the last three issues of *Western Industry* to present the facts about Congress as they affect the West in order that our readers may be able to vote most intelligently for candidates or lend them active support.

Webster's New Century Dictionary has two pertinent definitions for the word "politics"; (1) the art of government or the administration of public affairs, (2) party management or control. Yet many business men are prone to believe that only the second definition covers the functions and thinking of their representatives in Congress, when actually most of the time of these officials is spent in work coming under the first definition and a great deal of it not affected by party considerations at all.

When it comes to a choice at the polls, intelligent voting or support obviously must be governed by two considerations: First, the immediate results that can be obtained by the candidate when he reaches Washington; second, the long-range aspects of rejecting an influential incumbent in favor of a newcomer who is of no influence at present but will be a more desirable man in the long run—provided you want to wait that long.

Viewed in the light in which the current articles by Mr. Herron present the Congressional picture, making the proper Congressional choice is similar to decisions regarding personnel and policies that are continually coming up in any business organization. Not that emotion or conscience should be disregarded; the first is often, the latter always, an inner prompting that lifts action to a higher and more permanently satisfactory level. But too often prejudice masquerades in their place and blinds one from giving common-sense consideration to political matters.

Economic Education of Employees

A LONG the line of educating employees to a better understanding of the capital investment that business must make before profits can be drawn, G. C. Breidert of Los Angeles draws an interesting picture in a recent paper presented to a study group, by pointing out that a workman would have to have an investment of \$33,333 earning a profit of six per cent to equal *net* wages of \$2,000 a year.

Information of this character should be presented to employees, but not in hasty doses when a strike is being faced, nor in stuffy pronouncements at other times. All such figures will be looked upon with suspicion that the employer is trying to "sell a bill of goods." There is great danger of overdoing the job, of discrediting the entire effort through unwise or dishonest presentations, but with conservatism, care and perseverance, real facts eventually will sink in.

FIXTURE-FINISHING FOREMEN can't play hunches!

**Fuller Finishes
help them keep
fast production
on the profit side**



It's a tough, fast-stepping business—fixture finishing! Every contract different, exacting, in a hurry! Whether it's counters, bars, desks, display cases, tables, shelving, rails, wainscoting, stands, cabinets or special furnishings, Mr. Foreman's got to *know in advance* that he can come up with the decorative effect specified on any wood, metal, composition or plastic; move fast enough to avoid tying up his shop, and complete the job on the profit side.

Fixture Finishing is another spe-

cialty field where Fuller's laboratory cooperation pays; where Fuller's man-on-your-job contact helps keep fast production on schedule, and profitable.

It's as true in other fields Fuller serves. Every Fuller formulation is job-tested for correct application and use-proved for unquestioned service—in your plant, on your equipment, in or on your business building or in or on your home.

W. P. Fuller & Co. Factories, San Francisco, Los Angeles, Portland. Branches, warehouses in principal Western cities.

FULLER
Industrial **FINISHES**



PRODUCTION FINISHES

Fuller Industrial Finishes do double duty: Meet production demands; give products durability and sales appeal.

MAINTENANCE FINISHES

Whatever the surface, there's a Fuller product exactly formulated to protect it or beautify it.

AIRCRAFT FINISHES

War-improved, flight-famed Fuller Aircraft Finishes now available for private plane use. See your Airport Refinisher.

MAIL BOX (Cont'd from Pg. 31)

August, 1946, issue of *Western Industry*, appealed to us strongly.

We should like to quote all or part of these four paragraphs in a prospectus outlining the activities of the Division of Industrial Research, Washington State Institute of Technology.

DAVID E. ALDRICH, Asst. Professor
of Mechanical Engineering
The State College of Washington
Pullman, Wash.

Thanks from "Maggie"

Editor, *Western Industry*:

As you know, the atomic energy issue now pending in Congress has my deep concern and interest, and the article from *Western Industry* in regard to the atomic project at the Hanford Engineering Works proved to be very timely.

WARREN G. MAGNUSON
U. S. Senator.

Silver Glitters

Editor, *Western Industry*:

We want to thank you for the silver article in the June issue of your magazine. It is of great interest to us.

One of our customers sent us an article cut from your August issue. This article was in regard to Mr. Frank Lilly's plan to start a manufacturing venture for producing silver flatware in the West. We have written to Mr. Lilly but we have no address other than Spokane, Washington, so we are taking the liberty of enclosing a copy of our letter to Mr. Lilly and asking you to forward it to him. In this way we are sure one of the copies, if not both, will be sure to reach him.

H. A. FOLGNER, Manager
Los Angeles Office
Handy & Harman.

Home Industry Appeal

Editor, *Western Industry*:

Regarding your article discussing possible silver fabricating plant in the Northwest, as a producer of silver we are of course desirous of having a price of silver established in conformity with its statutory value and we oppose Treasury sales of silver to fabricators at less than statutory value.

In regard to the discussed silver fabricating plant in the Northwest, we are of course sympathetic to the plan. We realize, however, that the industry is of a highly specialized character, and we have not as yet had the opportunity to study and review all the various problems and possibilities of the industry.

J. B. HAFFNER, General Manager
Bunker Hill and Sullivan Mining
and Concentrating Company
Kellogg, Idaho.

Not Afraid of Competition

Editor, *Western Industry*:

The leading article in your June issue (on proposed silver fabricating in the West) is an interesting one. We have always enjoyed and welcomed honest competition and wish all success to your new venture in Spokane.

ROY C. WILCOX, Exec. Vice-President
International Silver Company
Meriden, Conn.

Couldn't Take a Dare

Editor, *Western Industry*:

Several months ago you challenged me to pay for your magazine when it proved its worth. In the meantime, you placed me on your subscription list.

You win, enclosed find my subscription payment for a year's subscription.

ALBERT L. ROTH
Regional Sales Company
Denver, Colo.

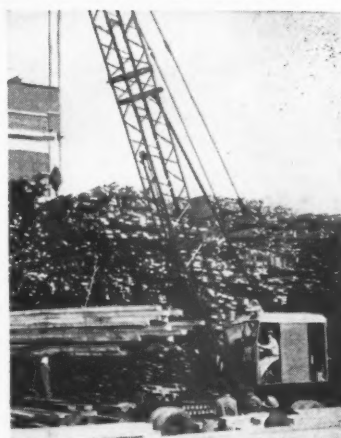
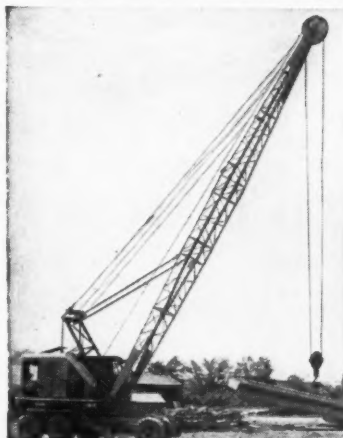
HOW

Are Heavy Materials Moved in YOUR Plant



Many industrial concerns find that many lifting and carrying jobs can be handled faster, more economically and safer with rubber-tired Mobilcranes and Supercranes. These one-man operated, one-engine powered cranes are fast and maneuverable . . . may be safely operated in close quarters . . . eliminate tracks and special roadways. In making plans for improved plant efficiency, you'll be interested in learning what the Osgood Mobilcrane and General Supercrane can do for you in modern materials handling.

Do You Have Jobs Like THESE?



IF YOU DO, you can
save time, money and
manpower with an
OSGOOD MOBILCRANE

or a
GENERAL SUPERCRAANE

GENERAL MACHINERY CO., E. 3500 Block,
Riverside Ave., Spokane, Wash.

WOOD TRACTOR CO., 1033 S.E. Main St.,
Portland 14, Oregon.

M. M. McDOWELL & SONS, 907-34th Ave.
South, P.O. Box 3105, Seattle 14, Wash.

POWER EQUIPMENT CO., 601 E. 18th Ave.,
Denver 5, Colo.

HYMAN-MICHAELS CO., Los Angeles - San
Francisco



ONE-MAN CONTROLLED • ONE-ENGINE OPERATED • RUBBER-TIRED

THE OSGOOD CO.
MOBILCRANES

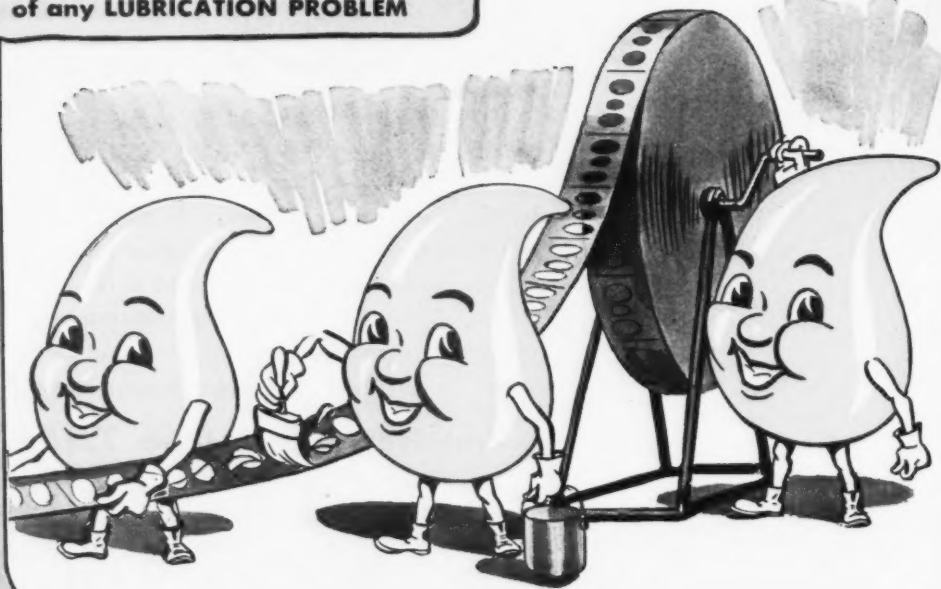
THE GENERAL EXCAVATOR CO.
SUPERCRAANES

MARION, OHIO



Call the

**SHELL LUBRICATION ENGINEER as
the FIRST STEP to the RIGHT SOLUTION
of any LUBRICATION PROBLEM**



High-Carbon Strip Steel PROTECTED with a SHELL RUST PREVENTIVE

PROBLEM: Lubricant used in machines perforating high-carbon safety razor steel had to be removed before etching. "Batch" production made storage of clean coils necessary. This manufacturer of razor blades sought a rust preventive that would protect coils during storage period, but which could be easily washed off just before etching.

SOLUTION: When the Shell Lubrication Engineer surveyed the problem, he recommended a Shell Ensis product, a rust preventive that can be applied by dipping

at room temperature and which washes off in cold water. The manufacturer was delighted, especially when Ensis-coated coils showed no ill effects after being stored in an area contaminated with acid fumes.

CONCLUSION: It pays to consult the Shell Lubrication Engineer, regardless of the nature or size of your lubricating problem. Write for a copy of Shell's 40-page booklet on Rust Preventives. Shell Oil Company, Incorporated, 50 West 50th Street, New York 20, New York; or 100 Bush Street, San Francisco 6, California.

SHELL RUST PREVENTIVES

OILS . . . FLUIDS . . . COMPOUNDS



Spotlight

on the NEWS

WESTERN INDUSTRY
FOR OCTOBER, 1946

VOLUME XI

NUMBER 10



More cultural education, even at the expense of shop work or chemical analysis, but nevertheless greater study of unit operations, a basic chemical engineering tool. This is the recommendation of Western chemical engineers at the recent regional meeting of the American Institute of Chemical Engineers in San Francisco.

This is the first effort to poll engineering graduates for their opinions of the education they received, and more than half the entire chemical engineering faculties of Western universities were present to hear this educational survey.

Graduates of eastern schools outnumber the Western chemical engineering graduates about two to one in Western plants, simply because Western universities cannot keep up with the rapidly increasing demands of industry in the West.

Recent Western chemical engineering developments reviewed at this meeting, one of the three largest in the institute's entire history, include the following: manufacture of phthalic anhydride for paints and varnishes from petroleum instead of coal; a new group of non-corrosive solvents known as sulfolanes, used chiefly at present to remove sulfur in refineries, but promising for refining of vegetable oils; processing lithium salts to make lithium metal, an important alloying material; fusing olivine and phosphate rock to make fertilizer; recovering alcohol from waste sulphite pulp liquors; manufacture of magnesium by carbothermic process in continued process; smokeless fuel from bituminous coal. The world keeps moving.



Stuck on Dead Center

Add famous last words: "At an executive meeting of chief traffic officers of Pacific Coast rail carriers, the request referred to was considered and continued on the docket for further study."

That's the dead center where the hoped-for reduced steel rates from Geneva to the Coast are stuck. Rail people do not feel that a very good case has been made yet for lowering the rates. What comes next?

Chairman Olds and President Fairless of U. S. Steel don't feel it's so hopeless as all that, because the \$12 a ton prewar rate which the rails think they can't afford to reduce is really only a paper figure, since no steel was ever shipped from Utah prewar—just pig iron. The \$8 wartime emergency charge which U. S. Steel seeks to have made permanent is really the actual and going rate, as they see the situation.



Desire to Cooperate

If earnestness and tone of voice mean anything, U. S. Steel's promise of a Geneva basing point for steel is not just a lot of hay, but a real intention to provide the Pacific Coast with relatively cheaper steel than heretofore.

Chairman Olds and President Fairless, on their recent Western tour with the entire board of directors, said they had real hopes Geneva production costs would permit a basing price as low as the East.



Present vs. Future

Labor supply is short at the seasonal employment peak in October, seriously so in the skilled construction and metal-working trades everywhere in the West, with actual shortages of even unskilled labor in many of the smaller areas, reports the United States Employment Service. The remaining pools of labor are located primarily in the larger cities and are very heavily weighted with over-age and marginal workers.

But U.S.E.S. points to unfavorable factors ahead; seasonal manufacturing, material shortages, especially in sheet steel, shrinkage of shipyard and Army and Navy civilian employment, dangers of price collapse and abandonment of small postwar enterprises. These clouds could blow away.



Transportation Trend

An obstacle is something that people go around if they can not remove it. For crowded highways and heavy trucking costs, H. F. Alexander, one-time big coastwise steamship operator, has a remedy already being put into use on the East Coast.

He proposes loading into 25-knot steamships 170 trucks or trailers for an overnight trip between San Francisco and Long Beach, at a price of \$3 a linear foot. The expense, about \$100 for each highway unit, compares favorably with highway hauling costs, but the running time, 5 p.m. to 8 a.m., is longer than highway or fast freight and thus disadvantageous.

Alexander's two boats would also carry 45 automobiles (\$14 one way, \$22 round trip) and 380 passengers. It has possibilities, but it takes a long time to pay for two \$7,500,000 ships at present operating costs.



Practical Impartiality

One of the basic difficulties in arbitration is in getting good arbitrators. Not just sincere men, but those with industrial experience, to whom job evaluation, for example, is not a strange animal.

For that reason, the management-labor committee appointed for the Pacific Coast area to assist the U. S. Conciliation Service in choosing a panel of impartial arbitrators is making a thorough effort to find practical men of an impartial temperament. Consequently the trend is away from the academic and theological fields. Out of the committee's efforts may come a substantial group of men who can go far toward removing much of the industrial strife that plagues management and labor alike. The committee's first meeting developed a very cooperative and friendly feeling on both sides, although, it is conceded, the real test is yet to come.

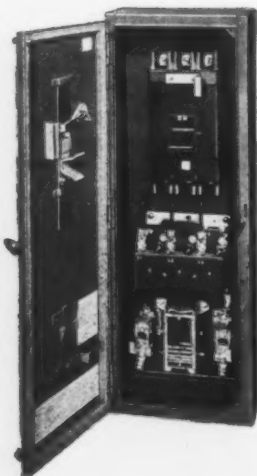


SQUARE D

COMBINATION STARTERS SAVE TIME AND SPACE...

Two important operations—switching and starting—brought together in one accessible enclosure. A true factor in attaining peak plant efficiency!

Square D Combination Starters combine Disconnect Switch and Magnetic Starter into a single unit!



Provision is also made for padlocking the disconnect when in "off" position.

SAVES TIME! Being one enclosure, the starter saves you installation time.

SAVES SPACE! It requires considerably less space than individually mounted switches and starters.

INCREASES SAFETY! The starter is interlocked with the disconnect handle, preventing accidental contact with live parts.

Square D front-operated starters are available in three capacities—sizes 0, I, and II. Write for Bulletin 8538 for details and illustrations of complete line.

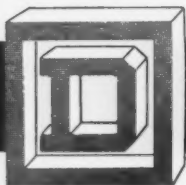
PLANT EFFICIENCY REP

SUBJECT:

*Installation of 3
Sq D Combination
Starters in Mks
Section*

RESULTS:

- ① *Time saved*
- ② *Space saved*
- ③ *Safety*



SQUARE D COMPANY

DETROIT

MILWAUKEE

LOS ANGELES

MASTER BUDGET CAN SAVE MONEY FOR SMALL WESTERN BUSINESSES

**By Comparing Actual Results Monthly with a Predetermined Budget
Zooming Costs Can Be Detected and Corrected Before End of Year**

BUDGETARY control seems to have two main aspects and all too often these seem somewhat opposed to each other.

One of these is that of the accountant who deals primarily with the financial controls. The other is that of the industrial engineer who, usually working directly with the manufacturing portion of an organization, deals primarily with the physical unit, developing controls thereof, both as to direct cost and the best way of doing a given job.

That is true of businesses whether they be small or large, but because those of the smaller type are far more numerous the following will be concerned principally with them.

Especially in a small business, a third aspect to be given paramount consideration is the cost of budgetary control itself. For every dollar spent on control of this type, the actual returns to the business concerned will exceed the cost thereof many times over. However, it is still twice as good to save a given sum of money with an expenditure of \$5.00 rather than an expenditure of \$10.

This cost problem is quite easy to solve, since in a very small business which cannot afford to spend a great deal on budgetary control, the budget problem is relatively simple. As the business grows in size and complexity, the system of control becomes somewhat more expensive, but the larger business is able to absorb this additional cost. Therefore, we shall deal with a general system of control at the least possible cost, with the first emphasis being placed upon the accounting and finance approach.

By CARL KOTCHIAN, CPA
Head of Budget, Price & Estimating Control,
Lockheed Aircraft Co., Burbank, Calif.
Formerly with Price-Waterhouse Co.,
Accountants, Los Angeles.

What is the minimum of budgetary control? We are interested in the minimum first, since cost is a primary factor. The answer is dictated by the minimum we require in actual financial statements for use in managing business, namely the balance sheet and profit and loss statement.

These two statements on a budget basis, forecasting operations for a year in advance, constitute the minimum as well as what we shall call the master budget. The actual financial statement and the master budget should be amplified by two additional statements if we are to fully understand our operations — a statement of cash receipts and disbursements, and a statement setting forth changes in working capital position.

In the case of a very small business, a one-man operation, a system of budgetary

control may not be absolutely necessary, since the individual carries volume estimates, cost estimates, tax charges, final net profit, and cash position in his head and knows instinctively whether his position is becoming better or worse.

However, with very little cost, if his books are being prepared on a regular basis, he could have actual results each month compared with a predetermined budget, and he would know whether he was going to attain the results in a given year that he had forecast in his own mind. As a business becomes larger, an over-all budget becomes absolutely essential if the management of that business is to keep control over all elements that make for profits or red ink.

A master budget consisting of the foregoing mentioned four statements is not only the minimum because of the information and control which it will provide, but because it should be economical to prepare and maintain. Every business that maintains financial records has some person or persons charged with the responsibility of maintaining its books. Why not use these people who are familiar with accounting and financial records to compile and maintain a master budget?

All too often business relegates record keeping to a figurative back corner of the office reserved for book-keeping and other tolerated clerical activities. The employees who maintain these records have a wide insight into the companies' operations, and with help can prepare a master budget and maintain it.

When the accountant begins the preparation of the master budget, he must work



• Time spent in planning a budget is time invested in the profits of the business.

very closely with the management of the business in order to be informed of all possible business plans—what will be sold, how much, when, what it will cost, and when the costs will have to be incurred. Consideration also must be given to past performances in sales volume, gross profit margins, general administration and selling expenses, other income and deduction items, tax rates, etc.

A typical master budget which could be used in a small business with a typical set of accounting records would contain a minimum of nine working schedules which must be prepared in addition to the four final statements mentioned before.

These Nine Are Musts

The working schedules cover sales, labor, material, capital assets, overhead, cost of sales, accounts payable, journal entries, and a working balance sheet. The sales schedule will provide a budget of sales by items and by months which will be posted to the sales section of our final budgeted profit and loss statement.

On this same schedule, there should be shown our best estimate of how these sales will be collected. Are they cash sales to be collected currently each month, or will they be carried in accounts receivable for 15, 30, or 45 days? From past experience we will know the answers to these questions and shall be able to show this information on the sales schedule, from whence it can be posted to the final cash receipts and disbursements statement under receipts from cash sales or collection of accounts receivable.

The labor schedule will show a budget, based upon sales volume, of labor costs, both direct and indirect, for the ensuing year by months. Needless to say, it is not necessary that this schedule carry the names of individuals, since we may wish to work with group totals. However, in a very small business we may wish to list individual names and rates of pay.

This schedule should be divided between direct and indirect labor, since the direct portion thereof will be transferred to cost of sales, whereas the indirect will be included on the overhead schedules. As in the case of sales, the labor schedule should also show how the payroll will be paid by months based upon our payroll procedure. This latter information will become part of our cash receipts and disbursements statement under the caption payrolls.

The material schedule will show a budget, based upon sales volume, of material receipts for the ensuing year by months. Since the information on this schedule will be posted directly to cost of sales and the accounts payable schedule, it need not show payment information for this will be calculated along with overhead items on the accounts payable schedule.

The capital asset schedule will show the present balance in our asset accounts plus the items we expect to purchase in the coming year, and the balance in our depreciation reserves plus the additional depreciation we expect to provide during the budget period. The capital asset purchases will be posted to the statement of changes in working capital and to the accounts payable schedule. The depreciation provision will be posted to the overhead schedules.

In preparing the overhead schedules, indirect labor information should be taken from the labor schedule, and depreciation expense from the capital asset schedule. Other expense items such as supplies, utilities, social security taxes, real and personal property taxes, rent, insurance, etc., should be budgeted for the ensuing year, based upon sales volume or upon the fixed nature of the item.

Manufacturing overhead expense will be posted to the cost of sales schedule, whereas selling and administrative expense will be posted to the statement of profit and loss. Items such as supplies, utilities, and rent will be posted to the accounts payable schedule. Taxes and insurance expense will be recorded on journal entries, since these expenses are usually contra to a prepaid or accrued account.

The cost of sales schedule will summarize direct labor, material, and manufacturing overhead information in order that the total may be transferred to the statement of profit and loss.

What We Owe

The accounts payable schedule will summarize material receipts, capital asset purchases, and expense items and show how we expect to pay for them. The payment information will be transferred to the cash receipts and disbursements statement. The cash receipts and disbursements statement will summarize cash transactions shown on the sales, labor, accounts payable schedules, journal entry schedules, and statements of profit and loss, and provide information for making journal entries affecting the cash accounts.

Journal entries shown in an accompanying box should be posted to a working balance sheet whose beginning balances should be taken from the last actual balance sheet. The working balance sheet will provide us with budgeted balance sheets for each month of the ensuing year. The budgeted profit and loss statement will be prepared by taking sales from the sales schedule, deducting cost of sales from the cost of sales schedule to arrive at gross profit.

Next, administrative expense from the overhead schedule should be deducted to arrive at operating profit and the income tax provision calculated in order to determine net profit. The statement of working capital position will be prepared by including in source of funds net profit from

the operating statement, now cash expenses, such as depreciation from the overhead schedule.

Funds applied will include capital asset purchases, and changes in deferred charges will be taken from the monthly budgeted balance sheets. The difference between source of funds and funds applied will give us the increase or decrease in working capital during the budget period.

After the forecast has been completed by the accountant, working closely with management, it should be reviewed by the management to see if the final picture as to sales volume, profit, cash position, and working capital position is what the management wishes to accomplish.

If the forecast is satisfactory, it should then be retained unchanged until conditions make an amendment necessary. Each month the forecast operations should be compared with actual operations and variances pointed out and explanations obtained if possible.

Benefits and Limitations

The budgeted profit and loss statement will tell us the profit that will be made if a certain sales volume is attained. The balance sheet will tell us what the cash balance will be, what the amount of cash tied up in inventory will be and what the surplus account will amount to at the end of the budget period.

The cash receipts and disbursements statement will tell us when and from what sources cash will be received, when and to whom disbursements will have to be made and how much in cash can be withdrawn from the business in dividends. The working capital statement will tell us what we can afford to purchase in the way of capital assets in the coming year.

"Why isn't a forecast profit and loss statement enough; why bother with the other statements since our main consideration is to earn profits?" someone may ask. But, large profits do not always mean we will have enough cash to operate our business with expanding sales which may result in large profits.

We will have to increase our accounts receivable, our raw material, inventory or work in process, or capital assets, and to some extent our deferred charges. All of these will tend to tie up cash funds and we may not be able to handle this increased volume of business with our available cash. We should know this fact ahead of time in order to find other sources, either by bank borrowing or additions to capital.

Conversely, reduced sales volumes may show lesser profits but cash stringencies may be alleviated since accounts receivable will decrease, inventories will decrease, we will need no more capital assets, and deferred charges will tend to decrease. This particular point is hard for some executives to understand since they feel that

more profits automatically mean more cash in the bank.

Even after they are shown a forecast with large profits which results in less cash, they feel that the figures must be wrong. Therefore, the financial part of the business should stress that increasing or decreasing profits do not necessarily mean at the same time increasing or decreasing bank balances. It is only when we have all four of our budgeted statements that we are able to point out results obtained in profit, cash, and working capital.

Knowing How to Plan for Future

The master budget can also be the basis around which all of our long-term planning is made. In the preparation of it we will have to provide for a sales volume that will keep our business operating with a reasonable expectation of profits. It will point out many other items besides sales volume and profit that will have to be considered.

It must be admitted that the master budget is primarily for the benefit of top management and can be used alone only where that management is actively engaged in the detail operation of the business. If the business is of such a size that authority and responsibility must be delegated, supporting detail budgets must be made if adequate control is to be maintained.

These detail budgets, however, must be a subdivision of the master budget. Thus, no matter how complex the business and, therefore, no matter how complex the budget system, the top executive will not have to look at another report except the master budget as compared with the actual, if no substantial variances develop, in order to know that everything is progressing according to plan.

If everybody within the organization meets his detailed budgets, the top executive will not have to look at subsidiary reports. It is only when variances arise in the master budget comparison that it will be necessary to refer to subsidiary reports in order to make sure which part of the company is not performing up to plan.

Detailed Budgets

If our small business is a manufacturing organization, the industrial engineering aspect of budgeting should come into play. The master budget will set the over-all picture, but we must have some kind of detailed controls within the shop.

The foreman of a manufacturing unit is usually not concerned with sales, but only with the producing of a certain type of product at the lowest possible cost consistent with good quality. Therefore, at this point our industrial engineer, by means of time standards and process methods, should assist the foreman in operating his unit most economically.

After processes have been refined, time standards should be established per unit of output and the foreman should be given

daily or weekly reports comparing actual production and costs with standard costs. However, this information should be tied to and be a breakdown of the over-all master budget, if all parts of budgetary control operate toward the same final objective.

If our small business is of a size to require time standards, we shall also require a burden or overhead budget within our over-all control program. Here, again, detailed reports should be furnished to responsible individuals on a current basis, comparing budget requirements with experience. There are many other detailed budgets, such as payroll and material, which may be required for particular types of business, but their need will be shown after a small business has operated for a while with a master budget.

Conclusion

In conclusion, it should be emphasized that the minimum budgetary control for small business is a subsidized financial statement for a year in advance consist-

ing of four statements, namely, a balance sheet, statement of profit and loss, statement of cash receipts and disbursements, and a statement of working capital position.

It should be compiled by the accounting and financial personnel with the help of all other parts of the organization. Actual financial statements should be compared monthly with the master budget, and explanations obtained for significant variances.

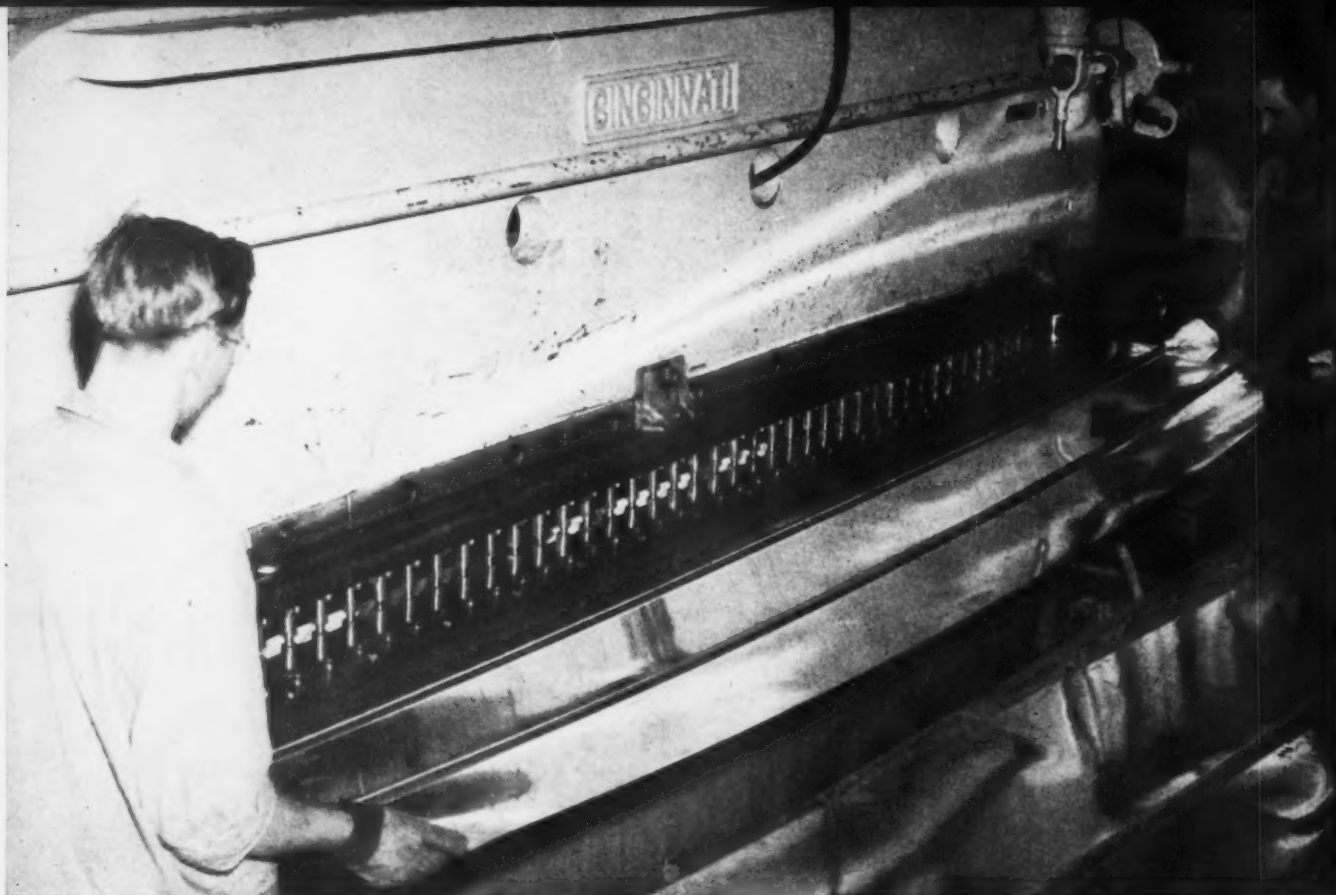
If the minimum budget does not provide the control required, it should be supplemented with detail budgets for sales, production cost, and overhead. However, these detail budgets must be part of the over-all plan if all controls are to result in the final net profit forecast at the beginning of the budget period. If we do not follow this approach, we may find ourselves with a hodge-podge of budgets administered by different individuals and directed toward uncoordinated ends.

ENTRIES FOR MONTHLY BALANCE SHEETS

The journal entry schedule will set forth all entries necessary to provide monthly balance sheets. These would include the following:

<i>Schedule</i>	<i>Entry</i>
SALES	DR. Accounts Receivable CR. Sales
LABOR	DR. Work in Process—Inventory CR. Accrued Payrolls (Covers direct labor only)
MATERIAL	DR. Work in Process—Inventory CR. Accounts payable
CAPITAL ASSET	DR. Capital Assets CR. Accounts payable
OVERHEAD	DR. Work in Process—Inventory Administrative Overhead CR. Accrued Payroll Accounts Payable Supplies Utilities Rent Prepaid Taxes—Real & Pers'l Prop. Prepaid Insurance—Fire Insurance Accrued Taxes—Soc. Security Taxes
COST OF SALES	DR. Cost of Sales CR. Work in Process
	DR. Prepaid Taxes—Real and Personal Property Prepaid Insurance—Fire Insurance CR. Accrued Taxes Accrued Insurance (This entry does not need a supporting schedule, since information necessary for the entry will be readily obtainable from past records or common knowledge.)
STATEMENT OF PROFIT AND LOSS	DR. Provision for Federal Income Tax CR. Reserve for Federal Income Tax
STATEMENT OF CASH RECEIPTS AND DISBURSEMENTS	DR. Cash CR. Accounts Receivable
	DR. Accounts Payable Accrued Taxes Accrued Insurance Reserve for Income Taxes CR. Cash

* From these entries the monthly balance sheets—profit and loss, cash receipts and disbursements and working capital statements can be readily prepared. Only nine journal entry schedules are necessary on the books. From them, working balance sheet is made up.



• This automatic strip-punch machine which replaces expensive and inaccurate hand lay-out method formerly used at Brown Industries, has decreased drilling time considerably. Total net savings accomplished are 20 minutes for each pair of 12-ft. roof skins.

PRODUCTION—Cutting Manhour Per Unit

Spokane Firm Saves Six Hours Labor per 36-ft. Semi-Trailer by Tool and Procedure Changes; Improves Product by Eliminating Internal Stresses

RECENT tool and procedure changes at the Spokane, Washington, plant of Brown Industries have resulted in a better product produced in fewer man-hours.

The plant produces all-aluminum truck bodies, trailers and semi-trailers, constructed primarily of skins, longerons, sills and stiffeners, all of heat treated aluminum alloy.

Longerons, sills and stiffeners comprise the framework of a trailer to which the skins are attached for walls and roof. They are single purpose parts, made of special alloys and shaped to exacting outlines and thicknesses calculated to give ample strength at lowest weight.

Aluminum skins as they come from the rolling mills are usually 4' x 12' x a thickness of up to .25". Since they are rolled

By A. M. INGEBRETSON
Director, Public Relations
Brown Industries, Spokane, Wash.

from aluminum alloy billets wrapped in sheets of pure aluminum, each skin has a surface of pure aluminum to protect its aluminum alloy interior from corrosion.

Production Problem

To appreciate the changes referred to above, and the savings and improvements they effected, a clear idea of what goes into a production unit is necessary. Typical of these units is a 36' trailer body. Parts involved are as follows:

(a) Two bottom longerons that extend the full length of the unit, one on each side; (b) seventeen sills across from longeron to longeron support the floor; (c) two top longerons extend full length that connect the side to the roof;

(d) seventeen stiffeners on each side extend perpendicularly from the bottom longeron to the top longeron to form the side frames and the same number extend across between the top longerons to form the roof framework; (e) four perpendicular corner posts complete the frame; (f) this framework is then covered with the corrugated skins to complete the box. A 36' unit requires twenty-two 4'x12' skins. Total weight of skins and extrusions is approximately 1,500 pounds.

Tool and procedure changes made, suggested through efficiency studies of the company's wartime experience in producing aircraft material for Boeing and Lockheed plants, consist of adaptation of a power machine for strip-punching, on the one hand, and the use of rivets instead of Clico clamps during the reassembly of skins and stiffeners, on the other.

Savings in time effected by the changes amount to approximately 40 minutes on

every pair of 12-foot aluminum skins assembled, or six hours per 36-foot, semi-trailer; improvement of the product resulted from always maintaining concentric holes, thus eliminating internal stresses created by misalignment of hand drilled holes.

Pre-punching is done on aluminum sheets, or skins, longerons, sills and various other members. Before the strippet punching machine was used, production methods required that skins, after their transfer to the assembly jig, be assembled to stiffeners by using Clico clamps and by marking center lines for each individual hole to be drilled.

Precise Spacing

Use of the strippet punching machine established precise spacing of each hole by piercing the ends, edges and centers of the skins, thus eliminating the expensive and inaccurate hand lay-out method. Depending on the size of the job, the machines may vary anywhere from four to sixteen feet in span. Punches used are of 3/32 diameter, and the dies holding them are so constructed that they are interchangeable, adjusted for a variation of one to six inches in increments of one-inch centers.

In addition to eliminating marking of center lines and spacing of each hole, use of the strippet punching machine has also decreased the drilling time required.

As indicated on the accompanying chart showing a comparison between time involved in the old and new methods, the 43.20 minutes, item 5, spent in marking for drilling has been eliminated, and the time for drilling, item 6, 14.50 minutes, has been reduced to 10.10 minutes.

Offsetting this saving of 47.60 minutes, 18.60 minutes has been added in the new method for piercing, item 3 in the chart. Thus, total net savings in time through use of the strippet machine comes to 29 minutes for each pair of 12-foot roof skins.

The change in procedure involving use of rivets to replace Clico clamps occurs in that part of the operation following completion of drilling.

Under the old method, after drilling it was necessary to remove Clico clamps, clean the skins of drilling chips, reassemble with aluminilastic filler and then reload with Clico camps.

At that point it was usual to find that approximately one-half of the holes had to be redrilled due to misalignment that prevented rivets from entering drilled holes with ease.

Production Loss in Redrilling

Misalignment was generally caused by the fact that the shafts of Clico clamps are of smaller diameter than the holes. Hence when their shafts were inserted in the

holes the skin would have an opportunity to shift, moving the lines that should be concentric into an eccentric position.

In addition to this it was also found that introduction of the Clico clamp shaft

out in order to permit easy entrance of the rivet at a later stage in the operation.

The procedure change adopted to correct this condition consisted of ordering that wherever possible, after all Clico clamps had been removed, and previous to the removal of the drilling chips, a rivet should be used in the holes rather than a Clico clamp during the reassembly of skins and stiffeners.

Results of the change were that eccentric holes were virtually eliminated, as well as the redrilling and re-burring of holes, and the reloading and unloading of Clico clamps.

Time Saving Important

Time savings through this step are shown on the chart as follows: Elimination of loading and unloading of Clico clamps for the second time, item 8, with a consequent saving of 6.40 minutes per pair of 12-foot skins; cutting down of hole redrilling time from 5.40 minutes to only .30 minutes, item 10, per pair of 12-foot skins.

Preliminary studies by which these savings were effected were made by Leo A. Clark, production superintendent, assisted by R. P. Whelan and T. A. Beck.

TIME STUDY COMPARISONS BETWEEN OLD AND NEW METHODS

Operation	Old Method* Man Minutes	New Method* Man Minutes
1. Shear to width and length.....	4.50	4.50
2. Corrugate	6.40	6.40
3. Pierce		18.60
4. Clamp skins together	11.50	11.50
5. Mark for drilling	43.20	
6. Drill (348) holes	14.50	10.10
7. Ld. and Unld. (66) Clicos 1st tm.....	6.60	6.60
8. Ld. and Unld. (61) Clicos 2nd tm.....	6.10	
9. Apply aluminilastic and clean.....	8.20	8.20
10. Redrill (180) holes	5.40	.30
11. Rivet (348) holes	65.60	65.60
Total Man Mins.....	172.00	131.80

*Note: These figures are on two 12' roof skins.
†Ld. and Unld. mean "Load and Unload."

into a hole would usually leave the hole with a burr which would have to be reamed

• End punching of 48-in. sheet aluminum in 1-in. spacing is now standard procedure at Spokane. Automatic spacing eliminates all stresses from misaligned hand-drilled holes.



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• One of the fruits of San Bernardino County's industrial development program—Universal Sanitary Mfg. Company plant at Mentone.

How San Bernardino County Lifted Itself by Its Bootstraps

FOR a clear idea of the extent of industrial decentralization in San Bernardino County and how it was obtained, it is necessary to get a picture of the county as it was in the early 1930s.

Then several San Bernardino County officials and businessmen suddenly awoke to the fact that their county had the largest relief load in proportion to its size of any county in California. Not only that, but the WPA was the largest payroll in the city of San Bernardino, including that of the large Santa Fe shops.

Such a condition naturally placed a tremendous burden on both county government and business. After struggling for months to find some way of lightening it through a relaxation of state and federal government relief regulations, the board of supervisors came to the conclusion that only one course of action was open to them.

That course of action they defined as follows: to create and put in action the kind of county government organization that would have as its chief function the reduction of unemployment by creating employment. Despite how small immediate results of such a plan might be, it was felt that only by the efforts of such an organization could the county take full

By A. W. WALKER

advantage of any opportunities that might arise as well as create new opportunities.

First step taken by the newly created County Department of Commerce was the obvious one of making complete county surveys that developed all information pertinent to plants, utilities, major highways, railways, land values and taxes throughout the area.

While that was being done, the Board of Supervisors decided that it would be smart to take advantage of the State Aviation Act, enabling them to purchase land suitable for use as sites for aviation schools and related organizations. Accordingly, the county acquired title to the Cal-Aero Academy near Chino and Ontario. With the site as a clincher, county representatives were eventually able to bring the C. C. Moseley Aviation School to the area, a first coup that meant the addition of an \$8,000,000 payroll to the region.

Next major move in the program was purchase of an airport site in the eastern portion of the valley adjacent to the limits of the city of San Bernardino.

That paid off within a few months. Learning that the U. S. Army Engineers

were seeking a major airport site in the area, the County Department of Commerce brought the site to the attention of the proper authorities who promptly bought it. Net result of the purchase of this second site was that within less than a year the new installation was employing over 12,000 people, an annual payroll of more than \$18,000,000.

Soon after that the county acquired another airport site at Victorville which it induced the Army Air Forces to take as a logical location for establishing a huge air base. That brought another annual payroll of \$7,500,000 to the county.

Purchase of the Daggett Airport was the next move on the part of the county, and it obtained C.A.A. permission to build permanent runways there and install modern lighting facilities. Shortly afterwards, the county was able to induce the Douglas Aircraft Corporation to establish a modification center at Daggett, and it likewise influenced the Fourth Air Force to utilize the remainder of the facilities. By this time the county was teeming with activity and relief had vanished.

Location of these air facilities was by no means the extent of the county's action. Continued plant surveys and action by county representatives resulted in estab-

lishing a Glider School at Twenty-nine Palms; the setting up of a Quartermaster Depot adjacent to the city of San Bernardino; an ammunition dump near Fontana, and the bringing of several small manufacturing plants into the area. They were also highly instrumental in the location of the Kaiser steel mill at Fontana.

Total amount expended in the county's airport acquisition program came to a little over \$500,000, most of which was well secured by land values. While it is true that the greater part of the increased payrolls brought to the county came as a result of war-induced activities, it is also true that the county policy, carried out by the County Department of Commerce, was largely responsible for bringing them to San Bernardino County rather than to some other place.

Because the county was ready to act, equipped with an organization for just that purpose, it was able to make full use of its advantages when the moment arrived for doing so.

This same policy has also proved successful since the return of peace.

Planning for Peace

Some time before the close of the war it was realized that the end of hostilities was near, and that what had been a successful program for absorbing relief workers at the opening of the war would be a logical program to provide work for returning veterans and the increased civilian population in the post-war period.

Consequently, even though there was no labor shortage and housing was critical throughout the country, a more aggressive program than ever before was launched to bring about the establishment of commercial enterprises in the county's various localities. All communities joined in the program, as well as those communities in adjacent areas of adjoining counties.

In swift succession industries were influenced to establish Western branches in the San Bernardino County area. These new industries included: the Fruehauf Trailer Company and the Hazel-Atlas Glass Company, near Pomona and Chino; the Over-Seas Air Service, at Ontario; the Universal Sanitary Manufacturing Company at Mentone; the Belding Textile Company, of Redlands, and the Sylvania Electric Company, adjacent to Riverside.

Added to these are two other large industries that have purchased sites close to the city limits of the city of San Bernardino and which will employ approximately 2,000 people when they get into operation. These industries are the Converse Rubber Company of Boston and the Athletic Shoe Company of Chicago, which have an interlocking directorate.

Largely as a result of the interest of these two firms, an industrial district is being established in the county on a 424 acre site immediately adjacent to the city



Arthur W. Walker, special representative of San Bernardino Co., has been secretary of the county Chamber of Commerce and Industrial co-ordinator. Previously he was property manager of a bank in Southern Calif. Has had importing, exporting and shipping experience, both domestically and abroad. A graduate of University of Minnesota, he specialized in Business Administration, a fact which now stands him in good stead.

of San Bernardino. The firms, which acquired 35 acres in the district, asked local businessmen to participate in the acquisition of the balance of the acreage as a means of indicating that the community was interested in industrial development.

At a meeting of local businessmen, the sum of \$100,000 was subscribed as their portion of the investment.

The district, which is to be controlled by a directorate consisting of personnel of the two manufacturing firms and a committee of San Bernardino businessmen, is located on a site formerly occupied by a bomb-loading plant during the war. It is on the main line of the Atchison, Topeka and Santa Fe and Union Pacific Railroads. It is also paralleled by U. S. Highway 66, the main arterial highway between Los Angeles and St. Louis, Missouri.

The district already has an adequate water supply and an adequate street lighting system is to be installed as rapidly as the planned system of streets, suitable for motor truck traffic and providing easy access to all plots, is completed. In addition to electric power, gas and sewage facilities, each plot is to have railroad trackage available.

Most of the plots within the district tract are five acres in area. While all acre-

age acquisitions must conform to plot size, combinations of plots can be arranged so that sites up to 40 acres in extent may be acquired.

Since the district is only four miles from the center of the city of San Bernardino's business center, and is somewhat closer to the main residential areas, transportation for employees will be adequate. Furthermore, they will be able to enjoy full advantages of urban schools, markets and recreation facilities.

In brief, then, San Bernardino County's program, carried out over the past few years as a means of solving unemployment through creating employment, has been successful. It is at least partly responsible for the fact that the county has now 15,000 more jobs than it had before the war. Also, through its continuance, it will be responsible for even more jobs being added during the next few years to be filled by the county's expanding population.

All Must Plan Together

But other areas, other counties, must take up the plan if its over-all objective is to have continued success. As experience shows, if unemployment exists in one area, this unemployment will quickly shift to areas where the employment seems to be adequate, thus creating a labor surplus, and as a consequence, unemployment.

For other areas to adopt a similar program it is necessary to realize certain things. Among these is the following:

The day of industry restricting itself to large and densely populated cities is past. Now it is becoming generally recognized that the congestion of large cities is unnatural and irritating to everyone, that it creates an unstable and nervous state of mind on the part of both labor and management which tends to create unrest.

What Some Small Communities Are Doing To Attract the Location of Industries

1. They are rushing through to a conclusion on county-wide planning so that industry will not encroach on, or be a detriment to the general welfare of the community. They do not want industry to take up valuable agricultural lands and thus reduce the productivity of the farmer. They do not want industry to encroach upon desirable residential or business areas.
2. They are avoiding industries that they feel cannot logically locate in their areas for obvious economic reasons.
3. They are avoiding plants that have obnoxious fumes and poisonous effluents that might affect underground water supplies.
4. They do not favor industries that will compete, or throttle already established existing industries.
5. No special inducements are being offered in the form of subsidies, nor do they encourage stock-raising schemes. Their interest is only in well established, adequately financed firms who have a record of successful operation and a well-known product.
6. They are determined that after a new industry is induced to come to an area, that cooperation must continue, and new citizens must be made welcome and assimilated into the community so that both labor and management know they are welcome and appreciated. This cooperation must come from public officials as well as the general citizenry.
7. Many communities, such as counties, municipalities and even unincorporated areas have compiled factual and attractive booklets setting forth their industrial advantages. They are also advertising in state and national periodicals. They send representatives into the Middle West and East to further interest prospects in their area.

Boeing System Tells When More Maintenance Is Uneconomical

HOW to determine when further maintenance of a piece of equipment is uneconomical is the heart of equipment maintenance problems for most industries.

Since materials handling and automotive equipment is used by virtually all industry, a system of cost accounting that provides that information for one organization should be of value to others.

Such a system is used by the Boeing Aircraft Company of Seattle, Washington, whose automotive materials handling and passenger units include all kinds of equipment from scooters up through lift trucks and station wagons to passenger cars.

Extent of the company's operations of these kinds of equipment may be gained from the following: During 1945 its fleet of 254 trucks, station wagons and passenger pool cars covered 3,587,886 miles of travel, roughly equivalent to 140 trips around the equator.

Naturally, maintenance of such a large amount of equipment called for a cost accounting system that would be accurate, simple, and would furnish all the information necessary to keep management supplied with essential knowledge on maintenance operations. Every cost accounting system is supposed to do that, of course,

but as any CPA will admit, it is extraordinary how many of them don't succeed in doing it.

In the Boeing organization, however, development of such a system has been a main objective and it is showing considerable progress in attaining it.

Making the System Work

How the system works can best be seen in the story of a piece of equipment during its life in the plant.

Each major piece of automotive equipment is given an equipment number when it first comes into the plant. The 1-99 group is given to passenger cars; 100-199 group goes to trucks; 200-299 to lift trucks, carloaders, and so on down the line.

After receiving a number and being put to work, the piece of equipment, say it is a passenger car, is called into the shop for inspection "A" as soon as it has covered 3,000 miles or at the end of 30 days, whichever comes first.

Work accomplished in this inspection, which takes place at regular intervals from then on, consists of any necessary repairs indicated by a complete check of batteries, spark plugs, valves, brakes, springs, clutch and other vital parts.

Thirty days later, or when a total of 6,000 miles shows up on the speedometer, the car goes back to the shop for an even more thorough examination, inspection "B." This, too, is repeated at intervals alternating with those of inspection "A."

In both cases any work that is performed on the vehicle is recorded on a form known as the "Major Work Record," "C," used in connection with cost reports to give the "case history" of each piece of equipment.

This time wiring, wheel alignment, generator, starter and the main fuel pump all get a thorough going over and everything examined on the first inspection gets re-checking.

Since accurate knowledge of maintenance charges for a piece of equipment depends upon careful time reports, responsibility for gathering time is placed squarely on the foreman.

Each day he turns in a daily time report, "D," which shows time devoted by each workman to each piece of equipment. Each type of work done, as on motor, tires, clutch or transmission has a code number that is recorded on the card.

Since it frequently happens that the maintenance department must use the facilities of other shops in the plant or that the maintenance shops are called on for other types of work, a serial number control is used which gears the automotive maintenance shops into both the general maintenance system and the over-all Boeing plant maintenance system.

From the foreman, the daily time report goes to the time keeping department which enters the distribution of work on the time card of each man. This distribution of information is punched on I.B.M. cards and at the end of each month an I.B.M. report is made by unit number and operation.

Accurate Records Kept

Material requisitions are handled in the same way. Each requisition is coded to show the unit number and type of work. I.B.M. reports on material are then posted to automotive ledger sheets which are maintained for each unit of equipment.

By keeping accurate records of time and material charges for each piece of equipment it is possible to make constant comparisons of costs between similar jobs and similar pieces of equipment. Thus, not only can management learn quickly and reasonably close what a job should cost, but it is also possible for it to determine readily which units are most economical

• Everything from scooters to mobile cranes come under the protective eye of Boeing Aircraft Company's automotive maintenance shops. A carefully followed system of controls insures that the equipment is kept in first-class working order and that accurate expense records are kept on each member of the large Boeing fleet. Here two Boeing workers emerge from the Seattle factory on a flatbed truck loaded with instrument panels.



Long Range Versus Short Range Problems of Western Influence In Congress Faced at Election

Short range need for safeguarding immediate situations involving industries of the West by retaining present powerful Western committee chairmen. Long range need to insure that the West achieves similarly advantageous position when shift in party control comes.

TODAY the West faces a serious situation in Congress and the possible loss of much of its present influence in Washington, D.C.

This will result if there is an early transfer of that body to Republican control with a consequent switch of valuable committee chairmanships now held by Western Democratic members to Eastern and Mid-Western Republicans, without comparable gains of new chairmanships by Western Republicans.

The powerful influence of these Western chairman who, under the rules are always the senior committee members of

By W. G. HERRON
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the party in power, is the principal factor that offsets the West's relatively smaller number of votes on the floor of the Senate and House.

The eleven Western states have only 49 of the 435 votes in the House of Representatives and 22 of the 96 votes in the Senate.

The West is now nearly as politically one-sided as the "solid South." This has developed Western Democratic seniority

Rules adopted by the Senate and House in the enactment of Public Law 601 will reorganize Congressional committees by consolidating groups of related committees, reducing the total number of new full committees to 15 in the Senate and 19 in the House. Even in the new reorganized Congress, under Democratic control, the West will retain a combined influence through its present important committee chairmen, plus others reduced to sub-chairmen.

This combined influence by these leaders will largely offset that of the far larger numbers of less influential Senators and Congressmen from the East and Middle West. For if the Democrats retain control of both Senate and House, and if Western Senators and Congress with precious seniority are reelected, the West will still have 17 chairmanships and subchairmanships against the combined total of 9 for the Middle West and East.



and increased the number of chairmanships held by Western Democratic senior members, nearly all of whom are conservative, business-minded Congressmen.

From a business standpoint, possession of these potent chairmanships is fine so long as the Democratic administration continues. But it has built the West up for a big let-down unless the West prepares to maintain its maximum influence under:

- (a) Continued Democratic control of both Houses, or,
- (b) A transition period, with possible control of either House by Republicans, or
- (c) Change to Republican control, and loss of valuable Democratic chairmanships.

To determine what may happen to Western business under any of these political conditions, the writer, at the request of *Western Industry*, made a most exhaustive survey which reveals the following:

Under the present Democratic majorities in both Houses of Congress,

Western Power

Probable number of chairmen from each section of the country in 80th Congress (January, 1947) of new full standing

←
**If control continues
DEMOCRATIC**

Figures on maps show the number of chairmen of present important committees of both the Senate and House from each section as they are (left), and as they may be (right).

Third and concluding article by Mr. Herron, business and governmental consultant of Washington, D.C. on the bearing of the November Congressional election on the industrial economy of the West. A factual study.

The first article made plain that the West needs primarily men in Congress who have seniority, which is all-powerful. The second explained how seniority has made individual Western legislators important. Now Mr. Herron shows what reelection or defeat of Westerners in Congress will mean.

Western members hold eight important chairmanships in the Senate and nine in the House, making a total of 17 for the West. This is nearly DOUBLE the seven chairmanships held by nine eastern states plus two from the 12 midwestern states, and compares favorably with the 27 from the 16 southern states.

If the change should take place it can be said with certainty that the West would lose all 17 of its present chairmanships, some of which would become subchairmanships under the new law for reorganization of Congress, and the new rules adopted by its committees.

No Senate Chairmen

Then there would not be one chairmanship in the Senate held by a Westerner. The reason is that no Western Republican Senator would have sufficient seniority to be in line for appointment as a chairman.

Out of 22 Western senators, only five are Republicans and all five are first-termers: Millikan of Colorado, Robertson of

Wyoming, Cordon and Morse of Oregon, and Knowland of California.

The national trend appears to be toward a return to our fundamental form of two-party government, requiring a strong minority to check the majority. But in the West a minority of five Republican to a majority of 17 Democratic senators cannot be regarded as a return to a two-party system.

West Loses to East

The West now has nine chairmen in the House. Upon changing to Republican control, the West would have but one chairman and two subchairmen.

As for the South, it would lose every one of its present 27 Democratic chairmanships, and receive only three new Republican in exchange, a net loss of 24.

The midwest and east, however, would obtain a total of 49 Republican chairmanships and sub-chairmanships in exchange for the nine Democratic they would lose, a net gain of 41.

The line-up under such circumstances would then be: east and midwest, 48; West and south, 5. The line-up now is east and midwest, 9; West and south, 44.

In terms of full chairmanships of the newly reorganized committees totalling 15 in the House and 19 in the Senate, the West would have but one, a House committee chairmanship. The midwest would have 15, the east 15 and the northeast border states of the south 3.

In effect the West would be outnum-

bered 33 to 1 in point of influence wielded by chairmen.

Southern Friends Lose

Reason for the preponderance of committee chairmanships held by the south is that through seniority over the years, southern Congressmen have been able to acquire a majority of important committee chairmanships, as well as other important positions such as those of presiding officers and floor leaders. Congress has been dominated during a long period of Democratic control by the southern states.

Fortunately, these southern and Western Congressmen have been generally quite friendly. That friendship comes in part from assistance which they have frequently given each other in their efforts to attain industrial emancipation from the east and midwest. And because both the south and West are emancipated to a greater degree than ever before, their representatives in Congress will undoubtedly continue to aid each other in keeping this independence.

This is an important point in consideration of what will happen to these Western and southern chairmanships if the Republicans seize control of either Senate or House at the November election. Then the question will become: will such a change strengthen or weaken the competitive industrial east and midwest? The answer is of tremendous importance to the entire Western economy.

Since the loss of these 17 committee chairmanships would definitely mean a substantial decrease in influence currently exerted for the West through its commit-

Because the West has become nearly as Democratic as the South, with 9 Democratic states out of 11, the West's chairmen and subchairmen will shrink to 2 under Republican control of the House. There are only two Republican Representatives from the West who have sufficient seniority to receive appointments over Eastern Republicans. Of the West's 22 seats in the Senate, only five are Republican. All five are first termers, so that not one of them has

sufficient seniority to rate a chairmanship.

With such decreased influence in Washington, the West could do two things: (1) Fight to retain influence of senior Democratic and gain additional Republican chairmen as seniority permits; (2) Have a President chosen from the West.

Governor Warren of California, winner on both tickets at the primaries, could expect support from many Southerners, at least from the border states.

In Washington

committees and present committees that become subcommittees under reorganization measure enacted at the last session.



If control passes to REPUBLICANS

In either House or Senate, the senior member of each committee belonging to the party in power is usually named by his party to act in the capacity of chairman of that committee.



	STANDING COMMITTEE	CONTINUED DEMOCRATIC CONTROL	
		<i>Continues as Chairman or Subchmn. if retains office</i>	<i>Successor if retired from office</i>
HOUSE	*A APPROPRIATIONS Subcommittees on:		
	Naval Appropriations (1)	Sheppard, Calif.	Thomas, Texas
	War Shipping Approp'ns (1)	Sheppard, Calif.	Thomas, Texas
	Maritime Com's'n Approp'ns (1)	Sheppard, Calif.	Thomas, Texas
	Agricultural Appropriations (2)	Tarver, Georgia (D)	Sheppard, Calif.
	*B COINAGE, WEIGHTS AND MEASURES (<i>Banking</i>)	White, Idaho	Somers, New York
	A HOUSE ADMINISTRATION (<i>newly created</i>)	Elliott, Calif.	X X X
	B INDIAN AFFAIRS (<i>Pub. Lands</i>)	Jackson, Wash.	Murdock, Ariz.;
	A INTERSTATE AND FOREIGN COMMERCE	Lea, Calif. Reelected at primary	Lea, Calif.
	B IRRIGATION & RECLAMATION (<i>Public Lands</i>)	Murdock, Ariz.	White, Idaho
SENATE	B ROADS (<i>Public Lands</i>)	Robinson, Utah	Whittington, Miss. Randolph, W. Va. Peterson, Georgia
	B WAR CLAIMS (<i>Judiciary</i>)	Engle, Calif. Reelected at primary	Engle, Calif. Reelected at primary
	A APPROPRIATIONS Subcommittee on Appropriations for State, Justice and Commerce Depts. and Fed. Security Admin.	McCarran, Nevada Term expires 1951	X X X
	A CIVIL SERVICE (<i>Combined with P. O. and Post Roads</i>)	Downey, Calif. Term expires 1951	X X X
	A EDUCATION & LABOR (<i>Becomes Labor and Public Welfare</i>)	Murray, Montana Term expires 1949	X X X
	B INDIAN AFFAIRS (<i>Pub. Lands</i>)	O'Mahoney, Wyo. Running for reelection	Probably Chavez, N. M., McFarland, Ariz.
	B INTERSTATE COMMERCE (<i>With Commerce; becomes Interstate and Foreign Commerce</i>)	Wheeler, Mont. (D)	Johnson, Colo.; (3) Stewart, Tenn.; Tunnell, Del.
	A JUDICIARY	McCarran, Nevada Term expires 1951	X X X
	B MILITARY AFFAIRS (<i>With Naval; becomes Armed Services</i>)	Thomas, Utah (4) Term expires 1951	X X X
	A PUBLIC LANDS AND SURVEYS (<i>Public Lands</i>)	Hatch, N. Mexico (5)	X X X

*A—Remains as Standing Committee

*B—Probable subcommittee of new full committee shown in parenthesis

D—Defeated for reelection

(1) (2)—Rep. Sheppard may choose chairman of either group (1) or (2)

(3)—Next senior, but Sen. Bailey, N. C., or Sen. Overton, La., probable chairman of new combined com.

(4)—Sen. Walsh, Mass., probable chm. new combined com.

(5)—Sen. Hatch, N. M., probable chm. new combined com.

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tee chairmanships, thoughtful voters should ask themselves two questions:

1) Will the West be better served by re-electing all 17 chairmen and other capable senior members of *both parties* to work with the present Democratic Administration for the balance of its two-year term?

2) Or will it be better to elect a Republican controlled House and Senate now, with but one Republican Western chairman and one sub-chairman to lead their

delegations in working out the West's industrial problems under a Democratic administration as best they can while they hope for 1948.

Western Program

For the short range protection of Western business, industry, agriculture, transportation, banking, and labor, the West must re-elect this fall every single Western Democratic chairman, and also every capable senior Republican and Democratic member of Congress with seniority on

Westerners Who Will Be Congressional Control After Re-Organization

If Under Continued DEMOCRATIC CONTROL

committees that handle the West's business.

The long-range picture, however, is somewhat different. Most voters recognize the fact that sooner or later, there will be a change to a Republican Administration and Republican control of House and Senate. These changes may arrive separately or together. In either event another situation will be created for which the West should prepare, a situation in which the West's potential committee chairmen and new subcommittee chairmen will have declined from 17 to a net of two.

With so few Western Republican senators, every ounce of seniority they have acquired will be of value to the West in a future Republican Senate. They must all be retained if the two-party system is to be restored to the West. Only Senator Knowland is up for election in November, while the others serve until 1949 or 1951.

Senatorial Candidates

Senator Knowland has acquired seniority on committees important to Western economy, placing him ahead of any possible successor. He is a member of the following Senate committees: Agriculture and Forestry; Irrigation and Reclamation; Immigration; Pensions; Rivers and Harbors; Atomic Energy; Aviation; Flood Control; Commerce; and the special committee to investigate the national defense program.

Under the present Republican trend it would be business folly for the West to replace him with any Democrat, no matter how capable, who can never acquire seniority toward a chairmanship under approaching Republican control. Such action would sacrifice present seniority toward such a chairmanship. It would deprive the West of potential influence that it must develop under eventual Republican control in order to survive in the industrial race with the east and the midwest.

In Nevada, where no incumbent is running for Senator, the voters will have to decide which will give them and the West in general greater protection — Malone, Republican, with his knowledge of Washington operations through his service as

Be Chairmen Of Committees Re-organization

If Congress passes to REPUBLICAN CONTROL



consultant to various Senate committees and who can build up seniority for a chairmanship, or Bunker, Democrat, a former member of the House, who would not be in such a position.

Idaho has a similar problem between Republican Representative Dworshak, as a candidate for Senator, and his Democratic opponent.

Able as their opponents may be, only Republican Senators can bring a return to a balanced Western two-party delegation or become chairmen under future Republican control.

Unless more Republican Senators are elected the West will suffer even more when its five present senators are cut from their present 25 committee memberships to 10 under the new reorganization rules providing but two of the new streamlined committee memberships for each Senator in the 80th Congress.

With but five Republican Senators in office, the West cannot afford to displace its only Republican Senator up for re-election this year with any Democrat, even if equally well qualified. This would retard restoration of the West's two-party operations, by still further reducing its lopsided Republican numbers from five to only four out of 22!

With but five Republican Senators, the West cannot afford to overlook the opportunity to acquire as many more as possible in the first battles where committee chairmanships and high seniority are not involved.

The West must look to its senior Democratic members rather than its Republican members for senior leadership on the following important committees: Elliott of California, Jackson of Washington, and Robinson of Utah on Flood Control; Outland of California on Banking; Jackson of Washington and Miller of California on Civil Service; White of Idaho, chairman of Coinage, Weights, and Measures; Elliott of California, Public Buildings and Grounds; and Robinson of Utah, chairman, with Elliott of California on the House Committee on Roads. Elliott also will probably be chairman of the newly

*A EDUCATION AND LABOR
OR
MERCHANT MARINE

Welch (Rep., Calif.)

(Since Rep. Welch will be the senior Republican member of both the new committee on Education and Labor and of the new committee on Merchant Marine, he must choose one and surrender the other.)

*B TERRITORIES (*Public Lands*)

Angell (Rep., Ore.)

SENATE

NONE

*A—Remains as Standing Committee

*B—Probable subcommittee of new full committee shown in parenthesis

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created Committee on House Administration.

Unrepresented West

The West has no Republican Senators on any of the following committees building up important seniority for eventual Republican control. More Republicans must be elected to provide sufficient available Republicans who can be appointed to these committees to build up seniority for eventual Western chairmanships.

These committees are: Civil Service, Foreign Relations, Interstate Commerce, Judiciary, Military Affairs, Patents, Post Offices, Rules, Territories.

In the House only 19 of the 49 Western Representatives are Republicans. No Western Republican is serving on the following committees building up seniority so important toward future Republican control: Banking and Currency, Coinage, Weights and Measures, Civil Service, Expenditures in Executive Departments, Flood Control, Foreign Affairs, Judiciary, Patents, Post Offices, Public Buildings and Grounds, Roads, Rules.

If there is a change, the West's 19 Republican Representatives under Republican control can present the West with only one chairman and one subchairman of the new committees. Republicans are serving on the following committees and must all be re-elected to build up Republican seniority and develop balance toward the return of the two-party system.

They would represent the West as follows: Representative Welch of California, potential chairman of Education and Labor or Merchant Marine, and Angell of Oregon, subchairman of Territories, and a high-ranking member of the new committee on Public Works.

McDonough of California and Angell are the only Republican members west of Illinois on Rivers and Harbors. Chenoweth of Colorado will be fairly high on Education and Labor.

The new committee on Public Lands will include Rockwell of Colorado, Barrett of Wyoming, Ellsworth and Stockman of Oregon, Phillips of California, and Holmes of Washington.

One Republican member would emerge very high on the powerful committee on Interstate and Foreign Commerce. Hinshaw of California, the only Republican member west of Kansas, would become second ranking member next to the new chairman. His continuance on the committee is vital to Western aviation, transportation and commerce, and trade. Anderson of California, fourth on Naval Affairs, is the only Republican on that committee west of Illinois.

Gearhart of California, fifth on Ways and Means, is the only Republican on this powerful committee west of Kansas. It levies taxes, sets the tariff, and serves as Committee on Committees to recommend members for appointment to all other committees. He is another senior member who has the influence to speak with authority in his field. He is the one Republican who can speak in executive sessions for Western taxpayers and importers.

Phillips of California and Hill of Colorado are the only two Western Republicans on Agriculture who come from west of Kansas, and their continuance is important to the cause of Western agriculture. The same applies to Horan of Washington and Gillispie of Colorado, the only Westerners on the powerful Appropriations Committee to come from west of Nebraska. Leroy Johnson of California is the only Republican on Military Affairs west of Missouri.

Should Not Be Supplanted

It is apparent none of these members should be supplanted by Democrats, no matter how capable, if the West is to acquire its share of Republican influence in an eventual Republican Congress.

That means the advocacy of a bi-partisan program. To advocate such a bi-partisan political program for the West, involving the election of both Republican and Democrats, strikes a great many people as political heresy calculated to attract the wrath of members of both parties.

Politically wise business men are, of course, sufficiently practical to appreciate

the necessity under present trends of such a bi-partisan program.

But from some businessmen in either party, who know little of politics and its operations, despite their frequently proclaiming themselves as life-long Democrats or life-long Republicans, considerable wrath will be sure to come.

For anyone who doubts this—that many people are not well informed regarding political parties—it is easy to prove. To test it, merely ask your neighbor to join you in a political quiz. The quiz is simple. It consists of each of you writing down on a piece of paper the answers to the following questions:

1. Name any three planks or even one plank in the last national platform of the party in which you were registered at the 1944 election when Mr. Dewey ran against Mr. Roosevelt.
2. Name any one principle for which your party stands that differs from any of the other party's, and tell how it differs.
3. What are the basic principles of your party that cause you to continue to register in it, or did you register in it because you always had done so?
4. Name the Representatives and Senators from your state including your own Representative, if you can. Incidentally, do you ever voluntarily write to any of them expressing your opinion on some controversial issue or congratulating them for some stand they have taken?

After you have written out the answers to these questions, exchange papers and see whether either of you honestly know whether the other person's answers are correct.

Even if you happen to be a political "sharpie" you will be astonished how it works out on your friends. Inevitably the quality of answers will make you feel that most of those who have taken the test, and who then cry "political heresy" when you advocate bi-partisan action during the West's critical transition period don't have so very much factual knowledge about even rudimentary politics.

Accordingly, if you feel that the West ought not to lose its present influence in Congress, and should retain in office both senior Democrats and Republicans who hold or will eventually hold Congressional chairmanships, you will consider the source of any cries about political heresy and not be worried about them, especially since industry in the West may be fighting for its very life before the end of the present administration.

Spry Seniors

"All right," you may say, "I will agree about the chairmen, but why should I support any member, of my own or of the opposite party, just because he has seniority? What can he do for the West that any other new candidate of equal ability cannot do?"

There are a number of reasons. There are young members and old, in terms of service in Congress. The longer they serve

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Actually, they do not favor either party completely. However, to avoid the possibility of portions being misused for political purposes in behalf of either party, the copyright restrictions must be strictly observed.

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on their committees, the more proficient and capable they usually become. Not only that, but whereas in business older men frequently stagnate, in Congress that does not normally happen until a member arrives at the threshold of senility.

Senator Capper, of Kansas, active at 81, remains to the last at late night sessions of the Senate. Representative Lea, of California, at 73, does the work of two ordinary men, with a full-time job in his district office, and another at his committee office. Representative Doughton, of North Carolina, nearly 83, has the most of anyone in the House to do with the amount you pay in taxes, through his active service as Chairman of the Ways and Means Committee, where all Federal tax legislation, under the Constitution, must originate. Representative Sabath, 80, of Illinois, No. 1 in House seniority, is under daily pressure as Chairman of the all-powerful House Committee. This committee has power of life or death over every single act of Congress, through its control of the measures which shall be taken from the House Calendar to the floor, or die in the Rules Committee, even though previously reported favorably by unanimous vote of any legislative House committee, or even already passed by the Senate.

Representative Richard Welch of California is a steady, hard-working and life-long public servant.

He served in the California legislature from 1901-1913, the legislative body of the city and county of San Francisco from 1916-26, and in Congress the past 20 years, until he has become the senior Western Republican.

Upon him will fall the great responsibility to lead the Western delegations as their senior majority member and only chairman if and when the Republicans control the House.

There his long experience, acquired through years of service, will continue to be of benefit to the West.

These senior members bring much experience to their committees in the gentle governmental art of compromise.

Deciding Factors

Without compromise, government could not function because the conference committee, the only device for resolving conflicts between the two branches of Congress, could not operate. These conference committees, appointed for each conflicting House and Senate measure, consist almost entirely of senior members of both parties representing each House. In conference, the vote of one Western senior member may at any time determine the provisions of a measure favorable or unfavorable to the West.

With all their differences, members have many things in common. None has been afforded the opportunity of attending a school to learn how to be a Congressman, either before or after election. Their only opportunity to learn their job is by the doing.

Thus senior members are the only experienced teachers from whom younger members may learn the fundamentals of their jobs.

The majority of members are substantial, though badly overworked individuals. They must actually work harder than many businessmen. They have to do so to hold their jobs. Many have devoted their entire working lives to the government.

Another reason for retaining these proven senior public servants is found in a study of the personnel of our National Legislature. In it are men and women of every racial descent and creed, from every walk of life, trade, profession, and type of human activity, from every fraternal order and social group. Almost any professional task or trade skill can be performed by some one or more members. There are as many kinds of people in Congress as there are on Main Street on Saturday night or in church on Sunday morning.

Diversified Membership

Before coming to Congress, many members knew what it was to worry about meeting their weekly industrial payrolls, or about paying their farm hands and selling their crops at a profit. Many made great successes of their own private businesses or farms. Businessmen who think of all Congressmen as just plain politicians, would be surprised to learn of the business records of many Congressmen.

It is not to be wondered at, with this diversification of members, that so many forms of political beliefs, philosophies and more recently, foreign ideologies and "isms," should find expression in Congress. With their advocates crowded into one or the other of two parties, it is a wonder that Congress works as well as it does. That it does is a great tribute to the many hard-working, sincere, and patriotic men and women that comprise its most stable members and their committee and office staffs.

In recent years, aggressive radical left wing efforts have produced many candi-

dates and elected some as so-called Democrats or Republicans. They had no other party under which they were required to register. One need not pass an examination to declare himself a Democrat or Republican.

There are "members" of both political parties who consistently vote for measures favoring the philosophy of domination by the state, with the people as its servants. These members unwittingly serve as tools of this foreign ideology. Any substantial increase in their numbers in our Congress can seriously, though legally, weaken our form of government.

Until there is a national political house-cleaning in both parties, the West must re-elect its chairmen and effective members of both parties who can effectively combat this situation.

There is no other safe course for the security of the nation and for the protection of Western industry, trade and agriculture in this transition period.

What Industry Can Do

Western industrialists should favor keeping in office all capable experienced Western senior members, both Republicans and Democrats, just as long as they will remain. Ask the Washington representative of any Western chamber of commerce, business organizations or newspaper correspondent, what will happen to the West when it loses the influence it now enjoys.

During the campaign Western leaders should look over the field and actively support the chairmen and senior members of their choice in both parties with campaign contributions and the solicitation of votes from their friends. It takes money to be successful in elections as it does to be successful in business.

Nearly all of these senior members know the system of private enterprise built this country. The present operators of private enterprise, however, frequently forget to support these members by votes and contributions to their campaigns to permit their retention in Congress. In order for them to "stay in business" they have frequently had to seek their support elsewhere.

This is one election where the West must, in self-defense, protect its present influence and build for the future with the best men it can elect from each party, toward a strong majority and a strong minority.

So—if this be political heresy, make the most of it, but in any case preserve all possible Western influence in Congress.

From a Western standpoint that is the only way the West can continue permanently to wear those new industrial long pants it has taken so long for it to acquire.

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Western Manufacturers Selling in Wider Territory

Of the manufacturers of durable goods in Los Angeles, 49 per cent are selling in a wider territory than before Pearl Harbor, according to a survey recently conducted by T. C. Gilliam and Associates, consulting management engineers.

Other information revealed by the survey, conducted by means of a written questionnaire, are shown in the following questions with their answer percentages:

PRODUCTION:

If your plant is operating at less than 100 per cent capacity, is it because of material shortage or labor shortage?

MATERIAL SHORTAGE.....	38%	BOTH	21%
LABOR SHORTAGE.....	17%	NEITHER	24%

Approximately what % additional capacity, based on present total production, could you devote to new products?

AVERAGE 23%

PRODUCTS:

Have you added new products to your line since V-J Day?

YES	71%
NO	29%

New Products are what % of your present line?

AVERAGE 32%

Are you planning to add new products?

YES	86%
NO	14%

TERRITORIES:

Are you planning to enter new territories?

CALIFORNIA	24%	EAST	45%
WEST COAST.....	28%	EXPORT	38%
		NONE	38%

ACCOUNTS:

Is the number of your accounts greater than pre-Pearl Harbor?

YES	78%
NO	22%

Post V-J Day accounts are what % of your total?

AVERAGE 46%

Of the total of your present and potential customers in your sales territory, what % do you estimate is new since Pearl Harbor?

AVERAGE 38%

Do your sales average more to each account than pre-Pearl Harbor?

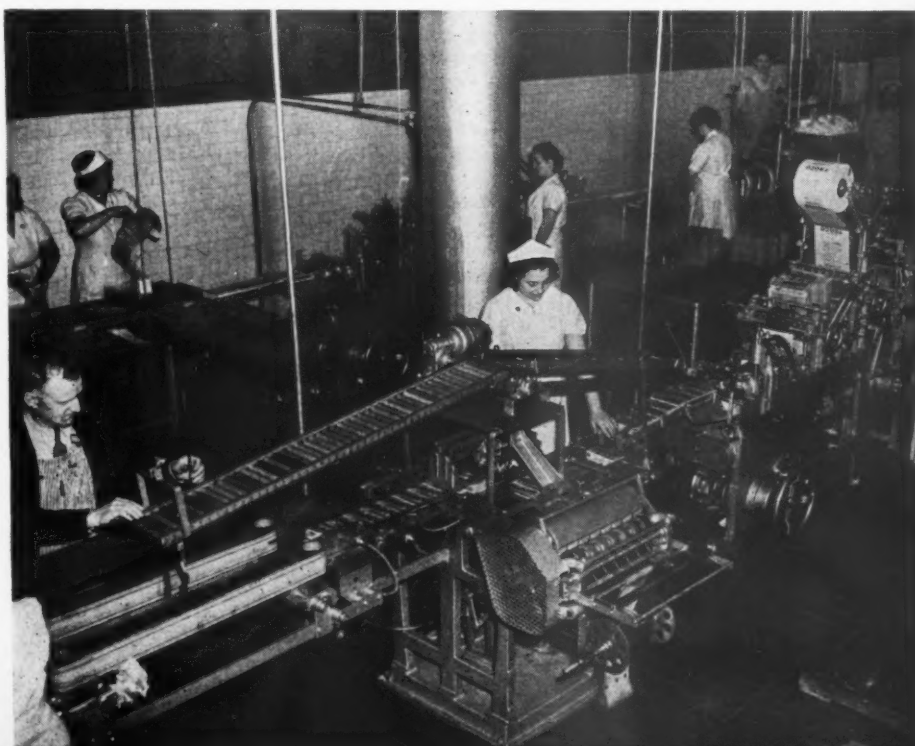
YES	64%
NO	36%

COMPETITORS:

Of all competitors selling in your sales territory, what % do you estimate is new since Pearl Harbor?

AVERAGE 22%

• Durkee's factory in Berkeley is one of the two largest margarine operations on the Pacific Coast. Despite vegetable oil shortages, this packaging line still is in operation.



As We Seem to Our Washington Editor

EN ROUTE BACK TO WASHINGTON, D.C.—This is being written on the shores of Puget Sound after a journey that began a month ago on the banks of the Potomac (which is by no means "all quiet" as the classic poem has it) and will end on return to that spot after circling the country.

For the last 16 years this correspondent has tried to tell what Washington affairs look like from the spot. This journey was undertaken to discover what Washington affairs look like from the opposite side of the continent, and what life on the Pacific Slope seems to be to a person who has not seen it at first-hand for a generation or more. In some way the trip was more of a revelation than expected; in others less than what one's friends promised.

Los Angeles, for instance, was a bewildering puzzle of billion-dollar industrial aggregates, with business executives in whirling plants who are so busy and so surrounded by the most approved gadgets of business shortcuts that they leave you rather breathless, and with the feeling that you are looking at a Hollywood script performance rather than a business transaction.

It Leaves You Breathless

And Los Angeles, with its vast apparel industry, with its metal fabricating plants, with its 1001 products which spread around the world, its enormous population, catches you up in its whirligig speed, and leaves you grateful for the chance to relax as "the finest streamliner in the world," called the Lark, hauls you north. There is no question, Los Angeles is one of the most bizarre and thrilling metropolitan showcases of the world.

The one question that troubles those responsible for the destiny of southern California is water. The more the area grows, the more water it needs. Another phase of the eternal struggle for water has begun in the dispute between southern California and the six states in Colorado Basin over the water of the Colorado. There is not enough water to serve the prospective needs of both. Some adjustment must be formulated, which will mean a long and stern struggle for advantages in the nation's capital.

Speaking generally, it would seem the average Los Angeles businessman is absorbed in his own hectic affairs, and Washington is so far away, that he is not much excited about the happenings in the nation's capital. He wants to know what

By ARNOLD KRUCKMAN

makes it all tick, and he is peevish about the things that go haywire, but he seems to think there is little he can do about it, and he lets it go at that. Like most other Westerners, he seems to feel there is no use making the effort; which, of course, is wrong.

The stability of San Francisco is as definite and perceptible as is the cinematic speed of Los Angeles. San Francisco itself did not seem very much changed; to this reporter it is the same sparkling, brisk, dashing, clear-toned city, with the same good clubs, the same kind of hotels, the same smart shops, the same striking-looking women on the streets, the same great number of good or spicy places where you can get palatable food and drink.

Its serene self-satisfaction makes San Francisco rather indifferent to Washington, D.C. It regards the present situation in the capital as an unavoidable and necessary evil, and leaves the worries to Louis Lundborg and the San Francisco Chamber of Commerce, and to Frank Marsh and his new \$30,000 a year job as the animating force of the Greater Bay Area Council.

The Bay area on all sides overwhelms the visitor with its impressive vestiges of the emergency plants and housing left over from the war. This tremendous economic panorama is an incarnation of the might and power when America shows its mailed fist.

Down to Earth

In the Pacific Northwest, across the ranges of the paintable and friendly Cascade Mountains, you are immediately impressed with the simplicity of Portland. You are struck by the fact that there isn't a place with a hat-check girl in the city, and your attention is arrested by the aluminum containers on wheels which the golf players haul around the links to carry their clubs. These aids to the ease of golfers are made in a Portland factory, and are said to be daily more popular in the Northwest.

Conversation with Arthur J. Farmer, general manager of the Portland Chamber of Commerce, brought out the fact that a recent survey of its members revealed the great majority were opposed to OPA and government controls, quite unlike the majority of business people who have been interviewed elsewhere.

One of the best-informed writers at the Nation's Capital, Arnold Kruckman, presents each month authoritative comments on political developments and their practical application to industry of the West. Any reader who wishes additional information may write to him directly, using business letterhead, at 1120 Vermont Avenue, N.W., Washington, D.C. Inquiries will be answered free of charge. You also are invited to contact him personally in Washington. Copies of pending congressional bills may also be obtained free of charge.

Portland has a population of roughly 500,000, and rests upon an industry based on agriculture, timber, general manufacturing, fisheries and tourists. The federal government maintains its Bonneville Power Administration in Portland, and is constantly selling the world the potentialities of electro-chemical and electro-metallurgical industries in the area. Unhappily, the taint of socialization which has clung to some phases of the Administration, has inspired something akin to distrust.

The St. Lawrence of the West

The great Bonneville power dam, a monumental enterprise which spreads its huge load of electric energy to four states, is, like the expansion of the navigability of the Columbia River, primarily the fruit of the labors of one man. He is W. D. B.



W. D. B. Dodson

Dodson, who represents the Portland Chamber of Commerce at Washington, and formerly was the general manager of the chamber. He has a vision that apparently will in time turn the Columbia into the St. Lawrence of the Northwest.

His dream has begun to unfold in the recent Congressional appropriation that will enable the Army Engineers to build the McNary Dam at Umatilla, make the Columbia navigable beyond The Dalles, and the Snake River navigable as far up as Lewiston, Idaho. This will make the wheat, minerals and other products of the Inland Empire available for distribution through Portland and other centers of the Northwest, and enable those communities in turn to send their commodities upstream.

WESTERN INDUSTRY—October, 1946

Studies made by Col. Theron D. Weaver, division engineer at Portland for the Army Engineers, envision a series of dams comprising a project comparable only to the St. Lawrence in magnitude. There already are, or will be, dams at Bonneville, The Dalles, John Day, McNary, West Rapids, Rock Island, Rocky Beach, Chelan, Foster Creek (just authorized), and Grand Coulee. Also four to six dams on the Snake River. In addition to the navigation and irrigation possibilities, these dams collectively are estimated to have a potential of 7,366,000 kilowatts electrical energy, a stupendous resource.

Coal Deposits Would Help

The Pacific Northwest realizes the prospective significance of this power, since the lack of coking coal in or near the Northwest area is to some degree a comparable limitation to the lack of water in southern California. There is much more optimism in the Northwest about the probability of finding the coal than there is in the Southwest about an immediate solution of the water problem.

One situation confronts the Northwest, however, which can be met only by patience, tact, cooperation and good will. Seattle logically cannot contemplate the epochal program on the Columbia River with complete equanimity so long as the fruits will flow almost solely to Portland, 200 miles to the south. Seattle has no Columbia River to bring cargoes to Puget Sound. Seattle, however, is the outlet for Alaska, now apparently on the brink of great development.

Northwest United

Conflict between the cities of the Pacific Northwest would be tragic. To minimize the effect of collisions of interest, Seattle has proposed the organization of Northwest United, bringing together the municipalities, chambers of commerce and other sub-divisions of Washington, Oregon, Idaho, and Montana. It is inconceivable that men like Floyd Hagie, executive vice-president of the Seattle Chamber of Commerce, and Arthur Farmer, general manager of the Portland chamber, will not be able to guide the aspirations of their groups in such manner as to avoid the waste of disastrous differences.

It appears to the visiting observer, with the District of Columbia background, but with sympathy and understanding of the Western Slope, that the larger future of the Pacific Northwest is almost upon her. All life in which we humans have a part comes back to the human equation. The stature, vision and breadth of the people of the Pacific Northwest will spell the speed with which its greater future will unfold.

Navy-Industry Hook-Up On Atomic Plans

NAVY and industry on the Pacific Coast are hooking up for renewed cooperation to facilitate development of the new type of ships and ordnance suited to atomic warfare. One of the first undertakings is a survey through the Navy Industrial Association to establish and keep an up-to-the-minute cross-file of what each firm could manufacture for the Navy in the event of a national emergency.

Moreover, the NIA aims to keep manufacturers advised constantly of all data that the U. S. armed services want passed along to industry in order to keep it abreast of new developments and the changes in the requirements of the Navy.

(The need for industry to cooperate with Army Ordnance in supplying information regarding facilities available for use in case of future conflicts was discussed in the February, 1946, issue of *Western Industry* magazine, pages 40-41.)

It is being predicted that light, fast ships scattered over the ocean will replace heavy vessels concentrated in fleets, and that lead sheathing or some other protection impervious to radioactivity will supersede the steel armor which was not proof against the Bikini explosion at 2,000 yards.

Propulsion by gas turbines or jet engines is also being forecast, although these are still far from being perfected, and their development is handicapped by the lack of metal capable of withstanding the high temperatures generated.

Interest in the subject was heightened in August when Vice-Admiral W. H. P. Blandy stopped over in San Francisco to make his only address en route from Bikini to Washington, D. C. He spoke before the Navy Industrial Association, saying that it was essential that this country keep ahead in the development of better atomic bombs and every other department of warfare. Admiral Blandy pointed out that there is a race going on between the major nations in the technology of atomic fission, and said that while he hoped some practical way of controlling the bomb could be evolved, he was dubious that it would be.

Charles E. Moore, president of Moore Machinery Co. and Pacific Coast vice-president of the Navy Industrial Association, who was on the Pacific shakedown cruise of the new aircraft carrier Tarawa, said that every bit of ordnance must be rebuilt for atomic warfare.

"Our coastal defense guns are already archaic. A future war would involve guided missiles and rockets, so the defense



•Vice Admiral Blandy reports to Bay area industrialists on results of Bikini atomic bomb tests. (Seated) Charles E. Moore, regional vice-president of Navy Industrial Association, and Admiral Richard S. Edwards, commander Western Sea Frontier.

guns of the future must be built with radar equipment capable of detecting missiles 1000 miles away, and automatically setting up a screen of defense before the raid strikes.

"In another way, our industries would probably not be called upon to again make landing craft or shells, for these would be obsolete. It is essential to know which plants can make the new weapons required."

New Test Cell to Aid Jet Propulsion Research

A concrete cell, steel reinforced, designed by the Ryan Aeronautical Company for testing jet propulsion and gas turbine engines, is now in use at Ryan's Lindbergh Field plant.

The new test house is equipped with instrumentation necessary to measure jet engine performance, thrust and fuel consumption, and is sufficient to test jet power plants.

Jet equipment to be tested is placed in a test stand between concrete walls. Controls, instruments and personnel are located beyond the wall on one side while the fuel is stored beyond the other wall to eliminate fire hazard. Operators are protected by one inch of steel armor plate and 18 inches of reinforced concrete and view the engine at work through heavy plate glass and small protecting steel grills.

Nazi Air Developments Studied at San Diego

Latest developments of Nazi aeronautical research in jet propulsion, guided missiles and pilotless aircraft are being studied at San Diego where captured German motion pictures are being shown.

As a means of informing United States technicians of the work accomplished by Nazi researchers, a library of captured German documents and films is being established at San Diego under the sponsorship of the four local aircraft manufacturers—Ryan, Consolidated Vultee, Solar, and Rohr. Eventually some 500,000 German products will be made available for study.

WESTERNERS AT WORK...

California

Conciliators!

Four Bay Area men were named by U. S. Conciliation Service Director Edgar Warren to the eight-man labor-industry advisory committee of the Conciliation Service's Seventh Region, covering 11 Pacific Coast and Rocky Mountain States. They are: A. B. Tichenor, director of industrial relations for Matson Navigation Co.; J. D. Zellerbach, pres. of Crown-Zellerbach Corp.; C. J. Haggerty, State AFL secretary; and C. J. Powers of the CIO Mine, Mill and Smelter Workers' San Francisco office.

Dr. Clark Kerr, head of Labor Relations Bureau of University of California in Berkeley, chosen impartial chairman for Pacific Coast longshore industry.

Food Producers

At annual organization meeting of Calpack officials, the office of chairman, formerly held by R. M. Barthold, retired, was discontinued. . . . William H. Carr, former comptroller, elected treas., succeeding H. L. Jones, retired; W. T. McGillivray named comptroller and asst. treas.

William H. McGinnis named asst. sales mgr. for Hunt Foods Inc., headquartering at Fullerton. . . . E. L. McKeany of Safeway Stores named v.p. in charge of sales for Spreckels Sugar Co. and Western Sugar Refinery. . . .

Lawrence J. Campodonico apptd. asst. gen. sales mgr., Hunt Foods, Inc., after Hunt firm took over Drew facilities where he was sales mgr. and partner of firm. . . . Ambrose E. Stevens becomes Western Division sales manager in new sales organization, and Campbell Bradt and Howard W. Thompson appointed assistants to Stevens.

Chamber of Commerce Men

Washington L. Connolly apptd. asst. gen. mgr. of California State Chamber of Commerce —Connolly has been with the State Chamber as associate director of research, director of the tax department, legislative representative and asst. to gen. mgr. . . .

Raynor E. Anderson promoted to asst. gen. mgr. of Oakland Chamber of Commerce. . . .

Brayton Wilbur, pres. San Francisco C of C; Harold Steele, H. M. Newhall & Co.; Stanley Powell, director of foreign sales, Calif. Packing Corp., and Richard B. Gump, A. & A. Gump Co., named as advisors for new trade relations program of U. S. Dept. of Commerce. New program will provide department with continuing advice and counsel, giving fuller coverage of the West Coast. . . .

Airmen All!



G. A. Mueller has been appointed contracts director for Consolidated Vultee Aircraft Corp., having charge of both military and commercial contracts. Convair contracts now total some \$288,000,000. He has been with the contracts dept. since August, 1943, and in April, 1944, was named asst. to contracts director.

Capt. Samuel J. Zeigler apptd. chief engineer for Solar Aircraft Co. at the Des Moines plant, transferred from San Diego.

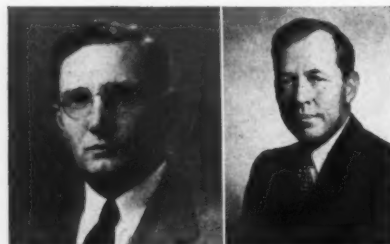
Rolla Martin Hubbard, Alameda, named dept. head in charge of Basic Division of Aero Industries Technical Institute at Oakland Municipal Airport. . . . George C. Bauer apptd. chief engineer in charge of aeronautical engineering division and W. Bruce Crowley, for five years Class A stress analyst at Lockheed, apptd. to engineering staff. The Institute opens its Master Aviation Mechanics division in Sept. and will open its engineering division Nov. 1.

Thomas Wolfe, former pres. of Western Air Lines, elected v.p. in charge of the Pacific-Alaska Division of Pan American World Airways at San Francisco. . . .

Tired!

Walter W. Bradley, State mineralogist for last 18 years, and member of Division of Mines, has retired. W. B. Tucker, Los Angeles district mining engineer, named as temporary successor. . . .

Atomic Bosses



• The General Electric men who are responsible for the operation of the \$347,000,000 government-owned Hanford Engineer Works at Richland, Wash., are David H. Lauder, left, and William H. Milton Jr., right. Lauder, asst. mgr. of the Service Engineering Division of the G-E Apparatus Dept. in Schenectady, N. Y., has been appointed manager of G. E.'s Nucleonics Project at Hanford, while Milton continues as administrator of the Hanford Works. G. E. plans extensive nuclear research. Milton was asst. gen. mgr. of the G. E. Electric Chemical Dept. and also mgr. of plastic divisions.

Oil Men

Reorganization of General Petroleum's industrial relations dept. results in the shift of R. B. Powell, head of the dept. in Northern California, to Los Angeles as asst. to A. J. Donnelly, director. T. J. Scanlon succeeds Powell at San Francisco.

W. D. Smith elected sec.-treas. of Wilshire Oil Co. . . .

Industrialists

O. Hammer elected pres. and gen. mgr. of Security Engineering Co., Inc., Whittier, and W. E. Sivers, former pres., elected chairman of the board. R. M. Cook is v.p. and gen. sales manager. . . .

John Sender recently elected pres. Castaloy Corp. of California. . . . At National Iron Works, San Diego, Dave Bell is upped to gen. mgr. post, William Swicker to v.p. in charge of Sales for L.A., and Ted Sanford to v.p. and sales mgr. . . .

George K. Dreher elected v. p. and apptd. gen. mgr. of Rogers Pattern & Foundry Co.,

Los Angeles, coming to the firm from Ampco Metal, Inc., Milwaukee. Dreher is an authority on bronzes.

Donald J. Will succeeds Patrick Coyne as pres. of Stuart Oxygen Co. and subsidiaries, Standard Acetylene Co., Ltd., Oakland; Valley Oxygen Co., Hanford; Pacific Carbide & Alloys Co., Portland. Coyne assumes chairmanship of board of directors of Stuart Oxygen and subsidiaries. Will is pres. of Independent Oxygen Manufacturers Assn.



D. J. Will

Robert A. Lees is mgr. of the American Anode, Inc., Los Angeles plant now under construction which will be in operation late this fall. He has been production manager of American Anode since 1935. . . .

Stan Wilson apptd. gen. service mgr. of Pac. Airmotive Corp., and S. H. Grinnell named branch mgr. of Burbank base. . . .

Hugo Hiemke joins Pacific Coast division of A. O. Smith Corp. as asst. director of company's service and development lab. in L.A.

Robert E. Segerdell appointed office mgr. of the San Francisco office of Hercules Powder Co. Succeeds Cliff A. Mace, who will be transferred to Hercules explosives dept. offices in Wilmington in January. Other Hercules appointments are: Thomas E. Brown, asst. supt. of Barchus, Utah, plant, transferring from post as dynamite supervisor at the Hercules, Calif. plant; Clifford T. Butler, new superintendent at Hercules, Calif., plant, succeeding Leroy P. Hall, retired. Butler comes from Bessemer plant. . . .

Charles P. Russell is new gen. auditor and Leo J. Gosney, San Francisco, asst. gen. auditor, of Western Pacific R.R.

At Sea

John Litz named acting operating mgr. of Interocean Steamship Corp., San Francisco, succeeding the late Howard Beadle. . . . Capt. A. T. Hunter resigns from post as operating mgr. of General Steamship Corp., continuing with company in advisory capacity. John R. Beroiani, his asst., assumes his duties. . . . Neil S. Laidlaw, port mgr. for Port of San Francisco, resigns to take exec. post with Matson Navigation Co. in Sidney, Australia.

Joseph A. Lunney, v.p. of Pope & Talbot, Inc., becomes gen. mgr. of the company's steamship division.

Government

Col. Paul G. Rutten, retired, becomes WAA zone administrator for San Francisco. He will have jurisdiction over the San Francisco, Seattle, Helena, Salt Lake City, Spokane, Portland and Los Angeles offices. . . .

Franklin H. Clark Jr., former Marine corporal, named a member of the CPA construction division citizens' advisory committee in Southern Calif., as the World War II member. . . .

Navy Citation

Ernst Eger, Los Angeles inventor of 65 basic tire and rubber processes, presented Navy citation for developing self-sealing fuel cell. . . .

James G. Hansen is supt. of Vulcan mine of Kaiser Co. at Kelso; formerly with A. J. Boynton & Co., Chicago, as construction engineer.

Colorado

Operating Man

Carl Mayer, executive of Republic Steel Co. and nationally known in steel manufacturing circles, is new pres. of Colorado Fuel & Iron Corp., succeeding E. Perry Holder, pres. since Oct., 1945, who retains post on executive board. Holder is expected to assume exec. position with Great American Industries, another Allen interest.

Idaho

E. G. Younger, sec. of the Coeur d'Alene Chamber of Commerce for last four years, resigns to become mgr. of C of C at McMinnville, Ore.

Montana

Berlin Boyd, sec.-mgr. of Missoula Chamber of Commerce, elected pres. of Rocky Mountain Institute, succeeding H. L. Buck, sec'y of Billings Commercial Club. Other Westerners appointed to board are T. C. Hutchinson, Miles City; W. S. Oves, Spokane; E. C. Smith, Laramie, Wyo.; E. S. Younger, Coeur d'Alene, Ida. (Institute is sponsored jointly by U. S. Chamber of Commerce, the Montana Association of Commercial Organization Secretaries and the University of Montana.)

Nevada

Leslie V. Lani has taken over operation of the Richfield Oil Corp. plant in Reno. He will be associated in plant with Robert Brashier. . . . His brother, Archie Lani, will be in charge of the Richfield plant at Elko.

Oregon

Hillman Lueddemann of Portland has been apptd. gen. mgr. of the Pope & Talbot, Inc., lumber division. His job will be to supervise the firm's holdings, comprising mills, timber, real estate at St. Helens and at Port Gamble, Wash., where it operates sawmills. Headquarters will be at Portland.



H. Lueddemann

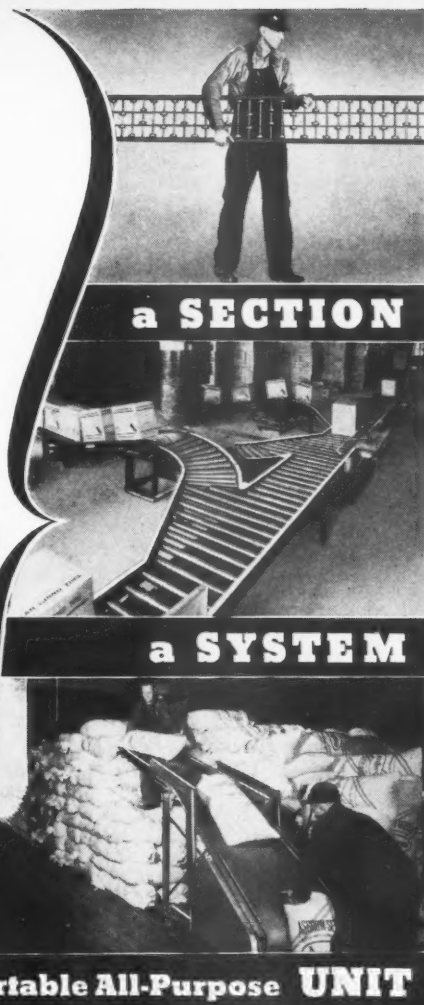
Lumbermen's Industrial Relations Committee, Inc., an organization of Oregon and Washington loggers and mill operators who are interested in developing sound labor policies, has appointed Fred Imhof as a field representative. . . .

T. O. Toon, pres. of Coast Fuel Corp., is new pres. of the reorganized Commando packing firm at North Bend. Joining Toon in the firm are Cliff Howlett, Portland, pres. of Marigold Packing Co. and tax consultant, as v.p.; and G. K. Murdock, former assistant cashier of U. S. Natl. Bank, Portland, as sec.-treas. Al Myers continues as plant mgr.

J. Ray Dailey, Portland, joins engineering staff of Northwest Marine Iron Works. Formerly chief engineer Willamette Iron & Steel Corp. . . .

V. A. McNeil goes from Portland C of C to become mgr. La Grande chamber.

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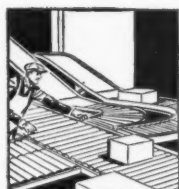
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WESTERNERS AT WORK...

Utah

James A. Marsh, Salt Lake consulting engineer apptd. chief geologist of Union Pacific R.R., with headquarters in Los Angeles. His territory will extend from Omaha to Pacific Coast. Previously he was with Utah Copper Co. and U. S. Bureau of Mines.

J. D. Moyle, Wasatch Oil Refining Co., Salt Lake City, has been chosen a member of the national board of directors of the Liquefied Petroleum Gas Assn. . . .

Floyd N. Schumaker, Salt Lake City, has been named acting associate regional director of the WAA, and will be attached to the office of Maj. Gen. Littlejohn, Washington, D. C.

Schumaker, only 30, rose to position of Col. in the Army Air Corps. . . .

Joseph A. Nelson, Salt Lake City, apptd. freight claim agent of Union Pacific Railroad for the UP's south central district succeeding O. J. Wullstein who was promoted to general freight claim agent at Omaha.

Thomas E. Brown apptd. asst. supt. of Bacchus, Utah, plant of Hercules Powder Co. . . . He transfers from Hercules, Calif., plant, where he has been dynamite supervisor.

Washington

New v.p. and manager of all operations of Dulien Steel Products Inc. of Washington, Se-

attle, is Harry Keisler. He has been with the company 10 years. Gilbert E. Rosenwald is new asst. mgr. and asst. sec. . . .

A. E. Anderson, one of the Northwest's best known mining engineers, and authority on engineering uses of explosives, mgr. of E. I. du Pont de Nemours & Co., Seattle Division for the past seven years, retired.

Michael Burgwin, acting director of the division of industrial relations in the department of labor and industries, resigns to enter labor-relations work with the Reynolds Metal Company, Troutdale. D. J. Mulholland, Seattle, will be acting supervisor succeeding Burgwin.

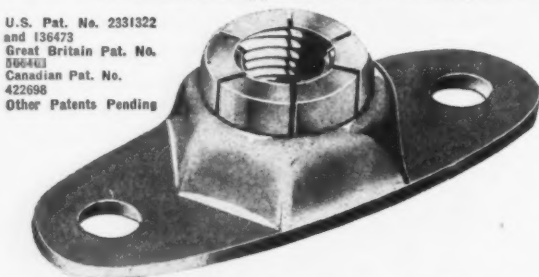
Clyde P. Fickes, assoc. director of Seattle regional office of WAA, is acting director of Los Angeles regional office. He succeeds Serge F. Ballif Jr., former L.A. director, who resigned. Fickes will be succeeded at Seattle by Ralph Deede, former field supervisor.

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Great Britain Pat. No.
595443
Canadian Pat. No.
422698
Other Patents Pending



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2600 SERIES (AN366)
"FLEXLOC" NUT
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Lumberman **Edmund Frank Cardin** of Tacoma has been apptd. a liaison officer between the National Housing Agency and the Washington State Land Commission. . . . Cardin's office will be with the land commission at Olympia. Fed. Govt. will compensate state for added expenses incurred in doubling amount of state-owned timber offered for sale between now and end of 1947. . . .

Key staff members who have been given new duties and titles at Fisher Flouring Mills Company, Seattle, are: **J. S. Davis**, v.p. and sales mgr.; **Frank White**, gen. superintendent; **W. L. Haley**, director of production and products control; **A. J. McFarlane**, sales manager, Feed Division; **Roy Adams**, asst. to sales mgr.; **Dewey Robbins**, milling superintendent; and **Harold Herzog**, warehouse superintendent.

Personnel Shifts

New appointments at Bellingham Iron Works, Inc., include those of **John Smart**, gen. mgr. of Bellingham Manufacturing Co. as production coordinator under **C. Ivan Jamieson**, exec. v.p.; **Oscar Lindquist**, chief engineer of construction, assisted by **Harry McLaughlin**; and **John Anderson**, purchasing agent. Changes followed assignment of **Ross W. Copeland** to Seattle where he will represent yard in completion of the S.S. Pacific Explorer.

Francis H. Bacon, for last three years disputes director of West Coast Lumber Commission, Portland, named acting asst. housing expediter in Seattle area—Bacon was formerly with Weyerhaeuser Timber Co.

Swiped from Alcoa

Clyde R. St. John, formerly with Alcoa, joins Trentwood works of Permanente Metals Corp. as metallurgical engineer. . . .

Earl Lee Kelly, pres. of the First California Co., is new chairman of the board of Harbor Plywood Corp., Hoquiam, when a group of Pacific Coast and Eastern underwriters bought control from Chicago interests. **E. W. Daniels**, pres., and **M. M. Pattison**, sec., retain their posts.

William A. Hooten, chief chemist at Superior Portland Cement Co. plant at Concrete, resigns to accept superintendency of Ideal Cement Co. plant in Mobile, Ala. . . . **J. Tom Cavnar** succeeds **George H. Patton** as asst. Seattle district mgr. of Ford Motor Co.; **A. J. Gardner** appt. business management supervisor.

Wyoming

Floyd Foresman succeeds **Donald E. Hoffman** as director of the FSA office in Buffalo.

John D. Clark of Cheyenne has been chosen as one of three members of the new economic advisory council in Washington, D. C., which will administer the so-called full employment law—he has resigned as dean of the School of Business Administration, University of Nebraska, and will reside in Washington. . . .

Associations Elect

California Mancrafts, organization of San Francisco manufacturers of men's clothes, chose **Leo Falk** of Crown Manufacturing Co., pres.; **Walter Haas Jr.** of Levi Strauss & Co., v.p.; **Nat Rothman**, Rough Rider Manufacturing Co., treas.; and **Robert Fledhammer**, Manufacturers & Wholesales Assn., sec'y.

Gilbert R. Cook, v.p. of West Coast Airlines, Seattle, elected sec'y of Feeder Airlines Association. . . . **James G. Ray**, pres. of Southwest Airways, Los Angeles, elected pres.

Pacific Coast Assn. of Port Authorities: **F. H. Marvin** of Tacoma, Wash., new pres.; **Thomas Coakley**, San Francisco, and **J. A. Earley**, Seattle, vice-pres.; **F. W. G. Sergeant**, Vancouver, B. C., sec. treas. Officers were chosen at the 33d annual convention held in Long Beach, Calif., in August. Vancouver, B. C., will be the meeting place of the association in 1947.

New San Francisco Bay region chapter of the Non-Ferrous Founders' Society nominates the following officers: **James R. Scott** of Kingwell Bros., San Francisco firm, chairman; **Roy C. Wendelbo** of De Sanno Foundry, Oakland, vice-chairman; **Fred De Bold**, Apex Foundry, Oakland; **Leon Camento**, Production Foundry, Oakland; and **Herbert E. Eggerts** of Berkeley Brass, Berkeley, directors.

Oregon chapter, American Society for Metals at Portland: **H. H. Hewitt**, Steel Tank & Pipe Co., chairman, succeeding **J. E. Comfort**, now member of exec. committee; **Rex E. DeLong**, Pacific Machinery & Tool Steel Co., vice-chairman; and **Ray Aungst** of Oregon Brass Works, sec. treas.

The newly formed Los Alamos Chapter, American Society for Metals, have chosen as officers: **Frank Kubosch**, chairman; **Harvey L. Slatin**, vice-chairman; **James M. Taub**, sec., and **Harold H. Hirsch**, treas. Some 37 metallurgists, physicists, chemists, engineers and technicians belong to the new chapter which is the 69th ASM chapter.

Pacific Coast Gas Association: **LeRoy M. Edwards**, gen. mgr. of Pacific Lighting Corp., pres. (succeeding **H. W. Edmund**, gen. mgr. Coast Counties Gas & Electric Co.); **A. H. Sutton**, Mission Appliance Corp., Los Angeles, v.p.; **D. G. Martin**, P.G. & E., treas.

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REGIONAL REVIEWS

SIERRAS TO THE SEA

SAN FRANCISCO — The Richmond area is facing a big readjustment problem resulting from the closing of Kaiser shipyard operations. Yards 1, 2 and 4 are being turned over by the Maritime Commission to War Assets Administration for sale as surplus property, and bids for rental of Yard 3 on a 10-year basis at \$600,000 a year, instead of the \$300,000 Kaiser has been paying, were to be opened in Washington on September 30.

Richmond Wants Yards

The city of Richmond has announced plans for bidding on Yards 1, 2 and 4 for resale to industries, but the Maritime Commission is requiring that Yard 3 be used for scrapping of ships, repair work, reconditioning or reconversion, on a 10-year lease which may be terminated on short notice in case of an emergency need. It is one of the best equipped yards in the entire country, some \$25,000,000 having been invested there by the Government.

Maritime Commission's action stops Kaiser from further use of Yard 3 for his

recently begun manufacture of aluminum bus bodies and from proposed general steel fabrication. On the other hand, it becomes available for wrecking the big fleet of ships now tied up in Suisun Bay, to provide steel scrap to relieve the present critical shortage.

Kaiser May Stay in Bay

Where Kaiser will move his operations was an open question at this writing. Eugene Trefethen, Kaiser vice-president, said Seattle, Portland and Los Angeles were being considered, but others believe the operations will remain in the San Francisco Bay area.

Kaiser has been maintaining a 3,500-man ship repair crew, and only 400 of these men would be needed to clear up the yard for ship scrapping operations. Kaiser protested the action at a hearing in San Francisco before Senator Sheridan Downey and Maritime Commissioner John Carmody, and was supported by city officials of Richmond who charged that the Government was letting Richmond down.

Specifically, they said, that in addition

• Had San Francisco's buildings been constructed with fire-resistant materials back in 1906, she might never have experienced the disastrous fire which destroyed a good part of the city. When a recent San Francisco fire broke out in the Marine Corps warehouse building on Third Street, where 100,000 rounds of 50-calibre ammunition, including incendiaries, tracers, armor-piercing bullets and highly inflammable grease (cosmoline) were stored, the fire was limited to the one storage section in which it started and was brought under control within an hour. Fire walls which separated the warehouse into three main storage areas and held up against intense heat, can be seen at left of picture.

—Marine Corps photo, courtesy Western Asbestos Company



to the net loss of 3,100 jobs which the order would effect, the Government was continuing to pour veterans' families into the city to live in its war housing projects, and at the same time was cutting off financial aid to Richmond's police and fire departments given throughout the war years as the city's population zoomed from 23,000 to 110,000.

Some of those laid off as a result of the shipyard closing, however, will doubtless find employment in the construction of the new plumbing supply plant to be erected in Richmond by the American Radiator and Standard Sanitary Corporation on a five and a half-acre site.

Cost of the plant is set at an estimated \$3,500,000. Construction is to begin immediately with the expectation that the factory will be completed in time for production to get under way in 1947. Operating employment of the plant is set at over 1,000.

Brass Plumbing Supplies

Products of the new plant will be brass goods used in plumbing. The two other plants operated in Richmond by the same company, one of them just across the street from the new site, are currently engaged in production of enamel ware and pottery products.

An Army-Navy board recently heard evidence from communities on both sides of San Francisco Bay on the need for a second bridge, and the San Francisco-Oakland Bay Bridge Authority is now engaged in making borings for four proposed crossings. Traffic studies will follow.

Proposals for bringing the railroads across the bay into a union terminal in San Francisco were not favored by the railroads, because of the high cost of buying property accessible to the business district of San Francisco, and also because terminals would still have to be maintained on the east side of the bay. In any event the possibility of a new bridge is highly attractive to the steel companies.

Pulp Mill Proposed

A new pulp mill in the bay area, considerably larger than any previous operation, is being contemplated. It is not known what corporation has this project in view, but it is understood to be some concern not yet supplied with Bay Area facilities.

The H. D. Lee Company, which recently acquired a site in San Jose for construction of a big clothing factory, now have completed purchase of the Eloesser Heynemann Company, pioneer California manufacturers of work clothing. They will operate both this purchased plant and their present branch factory in San Francisco as part of their national chain. The company's present expansion program in the area calls for the expenditure of an added \$1,000,000.

The Joshua Hendy Iron Works, Sunnyvale, has recently received orders for machines for the manufacture of fibre glass, first of their type ever to be built in the West.

Machines are to be made for Owens-Corning Fibreglas Corporation for use in their new Kansas City factory. They will produce superfine filaments of glass to be used as insulation material and in a wide range of other products, including bed rolls, comforters, pillows and garments.

Comprising four large units of six sections each, the machines will cost several hundred thousand dollars to build.

The Hendy concern is now making modern multi-color presses for *Time* magazine.

Winter Wheat Prices Cause Dust Bowl Jitters

"The plow that broke the plains" in World War I, with resultant dust storms that hurried the depression Oakies on their way to California, has been at it again during the second World War.

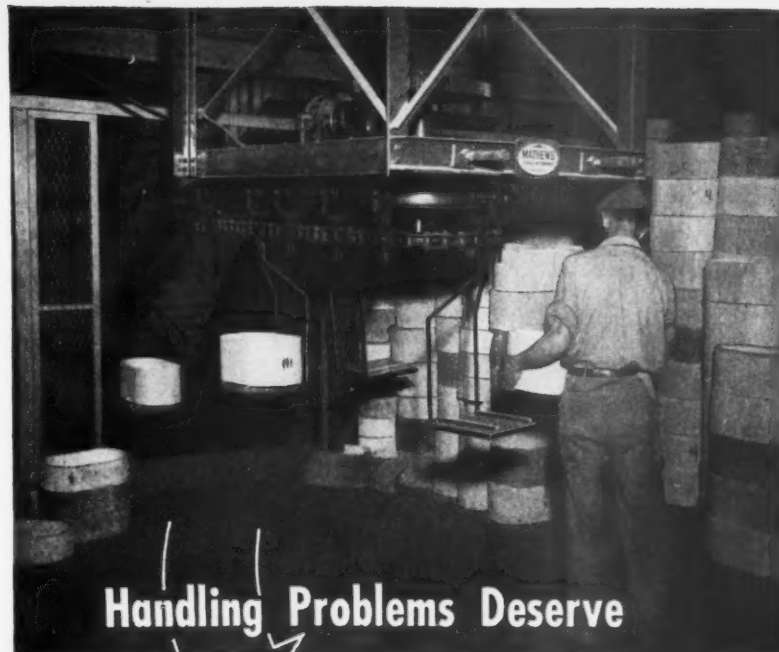
High prices for winter wheat have lured thousands of operators into the high-dry plains country of eastern Colorado, western Kansas and Nebraska, and adjacent areas. And while most of the operators are still putting in their crops and cleaning up sensationally at current high prices for grain, the serious drought this year in many sections of the southwest has revived fears that another dust bowl era is due.

Experts are trying to check a wave of sensational newspaper stories about a renewal of the dust storm peril. They point out that it takes two years of crop failures to put the soil in condition to blow, and that very few sections have seen their second failure yet.

Moreover, such authorities as Dean R. I. Throckmorton of the Kansas State College of Agriculture point out that soil blowing isn't as injurious to crop lands as many folks think. He says one heavy rain can do far more damage to the soil than several spectacular dust storms.

Then too, there are plenty of satisfied "natives" who say "outsiders" like the technicians of the U. S. Soil Conservation Service are whipping up fears about dust storms in order to get a big appropriation for continuing their agency's work and their own high-salaried jobs.

Best opinion is that the situation would be critical right now if it had not been for the intelligent education work done among farmers by soil conservation experts on federal and state payrolls, and that sound soil practices by the farmers themselves have saved the day. But when boom-time farms are abandoned, the dust will blow again in at least a good reminder of the horrible dust storms of the '30s.



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EVERY manufacturer, in striving to keep costs at a minimum, must deal with more or less difficult material handling problems. These are not always quickly solved, and usually require considerable thought by plant and conveyer engineers. Most experienced plant engineers agree that the use of Mathews methods and Mathews equipment means efficient material handling. That is why Mathews Engineers are usually called in on the problem requiring special attention. There are many types of Mathews Conveyers of both gravity and power designs, and from these types are selected the units which make up Mathews continuous flow conveyer systems. It is with such systems that prominent manufacturers are reducing worker fatigue and keeping materials moving through processing machinery, storage and shipping, with a minimum of product re-handling, costly confusion and delay.

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REGIONAL REVIEWS

THE PACIFIC NORTHWEST

IN A MOVE to unify efforts for the development of the Pacific Northwest representatives of Washington, Oregon, Idaho, and Montana are presently engaged in the organization of a group to be known as Pacific Northwest United.

Recommendations for the organizational setup were presented by an agenda committee at a meeting held at Timberline Lodge near Portland in August. Mayor Earl Riley of Portland heads the interim organization which is engaged in setting up a permanent body. Supporting the group are the heads of the four states and principal municipalities of each state, and the Chambers of Commerce of the larger cities.

Another move indicating the growing unity toward industrial development of the Northwest is the joint exhibit shown in September at the National Chemical Exposition in Chicago and to be shown at the National Metal Congress in Atlantic City during November. The Chambers of Commerce of Tacoma, Spokane, Vancouver, Wash., Portland, and Seattle, the Washington State Department of Conservation, and the Bonneville Power Administration are sponsoring the exhibit which

will feature the natural resources available for industrial development in the Northwest.

With the fishing season drawing to a close, it appears that the canned fish market will definitely not suffer from an oversupply. At Astoria the total catch of chinook salmon between April 30 and Au-

SEATTLE — Stetson-Ross Machine Co., manufacturers of ship steering apparatus during the war, has purchased the plant built by the government and operated during the war by the company for \$132,000. The plant has been converted to the manufacture of heavy wood working machinery. . . . Island Seafood Co., Everett, is a new firm engaged in packing and shipping frozen crab, oyster, and shrimp cocktails. . . . Kirsten Pipe Co. held open house to celebrate the opening of its new \$500,000 plant. In addition to the well known pipe and cigarette holder the plant will turn out an automatic ship pilot device.

gust 26 was 6,027,000 lbs., and fishermen reported the lowest receipts on record. The seasonal take of albacore tuna was the lowest since 1939 with only 2,719,000 lbs.

reaching the Astoria canneries as compared to 6,290,000 lbs. last year.

The Alaska salmon pack was likewise disappointing, with only 2,807,000 cases delivered against 3,962,000 last year. At the end of August a late run of sockeye salmon was pushing canneries on Puget Sound to capacity and some of the catch was being diverted to Astoria in order to relieve the load. Some canneries were threatened with shutdowns due to a lack of cans resulting from a mid-August dock strike at one of the manufacturing plants in Seattle; however, manufacturers were meeting the demand by working extra shifts.

The Alaska salmon canning industry has agreed to a proposal of the Department of the Interior which will cut individual fish-trap operations. Neither the fishing industry nor the territorial government appeared to be convinced that the proposal offers a permanent solution to the fishing problems, and suggested to a house subcommittee that the problem be turned over to the territory and that some congressional action be taken.

Fishing interests along the Columbia River protested against the construction of dams on the river and its tributaries when a congressional subcommittee held hearings in Portland during August. James H. Cellars, secretary of the Columbia River Salmon & Tuna Packers Association, told members of the subcommittee that the sal-

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OFFICES IN PRINCIPAL WESTERN CITIES • BRANCH AND WAREHOUSE IN SAN FRANCISCO

mon run on the river had fallen off 40 to 45 per cent since 1943. Navigation, flood control, and power interests were preparing briefs in support of the proposed development which is opposed by commercial and sports fishing interests.

Freezing in Barrels

Record crops of peaches and pears were being reported along the Columbia River early in September. The harvest of Bartlett pears in the Hood River area is 3,500 tons above last year, and the d'Anjou variety is expected to yield about 200,000 tons more than 1945. At The Dalles Columbia Cooperative Growers were packing a heavy, high-quality, crop of peaches by freezing in 30-lb. tins and 50-gal. barrels, the first time this method has been used by the cooperative. A competition for giant-size fruit brought out a 20-oz. peach.

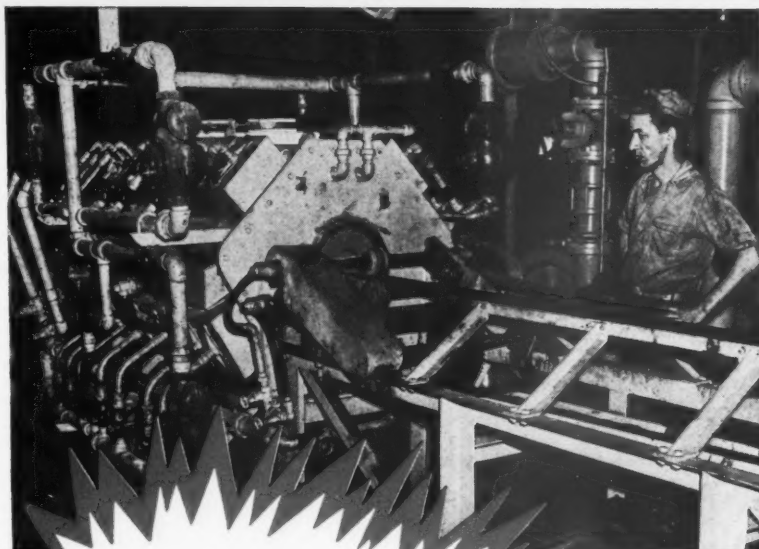
Two new crops have been reported from widely separated points in Oregon. At Vale, on the eastern border of the state, a grower was harvesting a successful crop of mint which was producing 52 lbs. of oil per acre. In Lake County, on the southern border, wild plums are being grown on tree roots under cultivation in a development supported by Oregon State College. Only one orchard is in production this year with the crop under contract to a canner.

The increasing quantity and variety of agricultural products in the Northwest are responsible for the large number of announcements made in the past month covering construction of new packing and

PORTLAND—Willard Storage Battery Co. has received CPA approval and will soon begin construction of a factory in the Guilds Lake area. The new plant will represent an investment of about \$500,000. . . . Gunderson Bros. Engineering Corp. has fully converted its wartime plant to building and industrial fields, and will engage in fabrication and erection of structural steel for bridges and buildings, tanks, pipe lines, truck tanks and trailers. . . . Air Reduction Sales Co. has purchased both the oxygen and acetylene manufacturing plants which it operated during the war and were built by the government. Sales price of the two plants was announced as \$176,000.

processing plants. Fibre Growers & Processors at Woodland, Wash., will construct a \$90,000 plant for processing flax fibre. The newly incorporated organization is made up of 20 flax growers in Cowlitz County.

A large berry cannery is being considered for construction in the town of Sandy near Portland by Hudson-Duncan Co. Idaho Creameries has taken bids for the construction of a \$70,000 cheese plant at Montpelier, Idaho. In the northern part of Yakima County, Washington, fruit



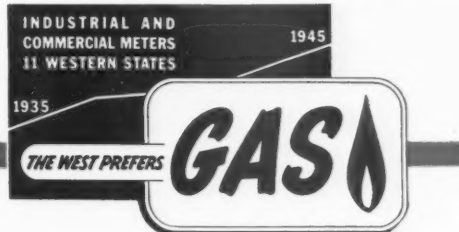
Business end of "Hell-hole" gas furnace at plant of Pacific Tube Company, Los Angeles. Overall length, including conveyers, 58 ft.

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THE PACIFIC COAST GAS ASSOCIATION



handlers have under construction cold storage warehouses estimated to cost more than \$1,000,000.

New Portland Cannery

One of the largest plants to be constructed will be a fruit and vegetable cannery at Portland for which the Starr Fruit Products Co. has already received approval of the Civilian Production Administration. To be erected on a 13-acre site north of the city the plant will have four concrete buildings including a cannery building, a maraschino cherry processing plant, an office and cafeteria building, and a power plant building. With completion of the

new plant the company will increase its staff from 600 to 1,500 employees.

Northwest Nut Growers have requested CPA permission to build a \$175,000 walnut and filbert processing and packaging plant to handle crops from six Oregon and Washington producer organizations. Enumclaw Cooperative Creamery Co. has announced plans for construction of a \$200,000 dairy at Yelm, Washington. W. Atlee-Burpee Seed Co. of Philadelphia, who had announced tentative plans to establish a plant in the Willamette Valley between Salem and Eugene, has now postponed those plans for at least a year.

Three other plants, also involving the use of agricultural products, but of slightly

different nature, were in the news last month. The Great Western Malting Co., at Vancouver, Wash., announced an \$800,000 expansion program for the 1948-50 period. Northwest Chemurgy Co., which is building a starch and glucose plant at The Dalles in Oregon, has started construction of a similar plant at Tulélake, Calif., where the principal raw material will be cull potatoes from the Klamath basin area. At Redmond, Ore., an animal by-product plant is under construction and will be in operation soon producing grease, tallow, and proteins for mixed feeds.

Lumber production boomed along in the late summer, distracted to some extent by the dry weather, which kept loggers out of the woods, by lightning storms, which burned some timber although there have been few serious fires, and by the current railroad car shortage, which threatened to shut down some sawmills.

Where Are the Boxcars?

By the middle of August some sawmills were laying off shifts and some processing mills had asked sawmills to stop deliveries. Both were caused by a lack of storage space at the mills and the lack of cars to remove the product from the mills.

In Oregon's Coos Bay area where much lumber is normally shipped by water the

SPOKANE—Indications that Sverdrup & Parcel, consulting engineers who are designing the proposed \$500,000,000 supersonic research center for National Advisory Committee for Aeronautics, would recommend the Grand Coulee area as the plant's location were expressed here last month. . . . Pacific Rockwool Co. plans to begin construction of a \$100,000 insulation manufacturing plant at Dishman, near here, in October.

problem was much more acute by reason of the port being tied up in a jurisdictional dispute between AF of L and CIO unions. A month after the port was closed by the dispute 30,000 MBF were reported to have accumulated in the yards of nine mills. By the end of August the storage and shipping problems in the lumber industry remained acute, although production apparently had not suffered to any great extent.

There has been considerable activity in the field of new sawmill construction recently with at least a half dozen new mills of sizeable capacity planned. One of the larger is being set up by the Trask Lumber Co., a newly incorporated organization which is planning to cut about 75 MBF per 8-hour shift on the Trask River in Tillamook County, Oregon. Hayward Lumber Co. of Los Angeles purchased a timber stand in Douglas County, Oregon, and is planning the erection of a 100 MBF mill near Azalea. The Twin Cities Lumber & Manufacturing Co. started operations at a new mill in Centralia, Wash. An all electric resaw mill, the plant will turn

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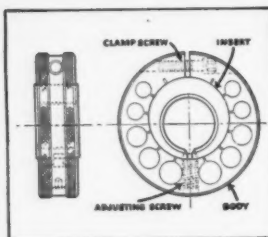
Employing a new principle of design, the Woodworth Thread Ring Gage closes in round within .0002 maximum after .005 adjustment. It offers greater accuracy and stability since size adjustment is controlled along thread helix angle. Threads are held securely in alignment after adjustment, due to unique adjustment means. Wear is distributed over full circumference for all resettings, thus increasing life of gage.

Positive adjustment makes it almost impossible to change setting with ordinary knocks. Positive identification by a green "go" gage and red "not go" gage saves operator time. Aluminum alloy outer body cuts weight in half, to reduce operator fatigue and increase sensitivity.

To also reduce fatigue on precision jobs, many plant owners make chewing gum available for workers. Tests show that the act of chewing aids in relieving tension, which is often the cause of fatigue. These tests further reveal that chewing Wrigley's Spearmint Gum, for instance, helps workers stay alert, thus increases their efficiency to do more accurate work.

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out a daily production of 100 MBF of finished lumber. The company is also planning new additions to the plant including an electrically operated dry kiln.

Pope & Talbot announced plans for the construction of a large sawmill east of Eugene, Ore., the plant to have a planned capacity of 200 to 300 MBF. A number of smaller sawmills are also in the process of being established. Two are near St. Helens, Ore., and one at Spokane, Wash., the latter to be erected by the newly organized Nolden Lumber Co.

Lumber Still King in West

Harbor Plywood Corp. announced plans for an expansion program coincidental with the purchase of 11,000 acres of timberland in Douglas County, Oregon. The corporation plans to construct a veneer peeler plant, a sash and door factory, and to expand sawmill operations with the addition of dry kilns. The corporation has taken over the Riddle Lumber & Manufacturing Co. as a part of its new holdings.

Wood pulp operations also appear to be on the upswing with definite announcements of three new plants. Bellingham Paper Products Co., organized by the Puget Sound Pulp & Timber Co., will construct and operate a new \$460,000 mill capable of producing 45 tons daily of paperboard. West Tacoma Newsprint Co. received CPA approval for construction of a \$10,000 addition to the present mill. At

Portland, Fibreboard Products, a subsidiary of Crown-Zellerbach, will construct a

TACOMA—Reynolds Aluminum Co. made the best offer to the War Assets Administration for lease of the aluminum reduction plant operated by the Olin Corp. during the war. Reynolds offered a 5-yr. lease on the basis of \$200,000 the first year to be increased \$50,000 each succeeding year. Permanente Metals Corp., Oakland, offered a 5-year lease at 2% of gross sales first year and increase of 1/2 of 1% each succeeding year. Eastern Metal Products Co., Mt. Vernon, N. Y., offered a 5-year lease with guaranteed minimum of \$60,000 first year to be upped \$15,000 more each succeeding year, plus 10% of gross earnings before taxes. . . . The Port of Tacoma is scheduled to open bids this month for dredging Sitcum waterway and filling Port terminal property which will make available additional industrial property when completed.

large carton factory. The complete new development is estimated to cost well over \$1,000,000.

Development of pulp production near Juneau was forecast with the return from Alaska by Benjamin Mullin who has been investigating timber areas and possible pulp mill sites in that area. Gist of his report was that no technical difficulties are involved. Capital appears to be reluctant to enter the Alaskan industrial field because the ultimate title to raw materials

and power sites is retained by the Government and their use available only on a lease basis.

A relatively new operation connected with the lumber industry, that of alcohol production from wood wastes, also made news features during the past month. Puget Sound Pulp & Timber Co., producing high grade industrial alcohol from waste liquor at its Bellingham sulphite pulp mill, announced that the output is now equal to the annual output of all Western alcohol plants prior to the war. The plant, which is the only one of its kind in the United States, has an annual production of 2,000,000 gallons.

Alcohol and other by-products will be manufactured from chemically treated hogged fuel and other wood waste by the \$3,000,000 ethyl alcohol plant at Springfield, Ore. The plant, which was built by the Government and is expected to be leased to the Willamette Valley Wood Chemical Co., is substantially completed and will probably start shakedown operations sometime in October.

Seattle Machinists

The machinists' wage arbitration in Seattle resulted in increasing machinists' wages from \$1.43 to \$1.51. Specialists went up 9c to \$1.31 and helpers 9c to \$1.14. The new rate of \$1.51 equals the rate in San Francisco and compares with Seattle auto mechanics' rate of \$1.50.

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REGIONAL REVIEWS

TEHACHEPI TO TIJUANA

LOS ANGELES.—Just as the auto manufacturing industry speedily became center of a giant web of automobile servicing industries, southern California's aircraft production one day may nourish a similar network of small firms engaged in grooming, fueling, and hanging privately owned airplanes.

Currently, some 25,000 small personal planes are in service in the U. S. and some

local optimists predict this number will quadruple within the next two years.

Major aircraft executives know all too well that the main meal ticket of the industry still is the military backlog. While flirting cautiously with the personal plane idea, they aren't putting too many chips down on it yet.

Reflecting upon the hundreds of companies that were casualties of pioneering

in the automobile business, they can well realize the hazards ahead. They know the need for a plane simple enough for the Sunday driver, for a national solution of air traffic difficulties, and for a long period of education to convince the American public that "anyone can fly."

Hard-headed students, however, also understand John Q. Public's present problems with his personal plane—(1) where to store it; (2) how to keep it in good mechanical shape at reasonable cost; and (3) how to get conveniently to and from the airport at each end of a flight, so that air transportation can be really worth while.

Major producers will have to solve these problems—and get production costs down within the average American's reach—before they can put the personal plane industry on a sound basis. So far, little organized effort in this direction is apparent, even toward so sensible an advance as the recent suggestion by Lt. Gen. James E. Doolittle—now vice-president of Shell Union Oil Corp.—that rent-a-car service be introduced at airports, to supply what he terms the "missing link" in private flying today.

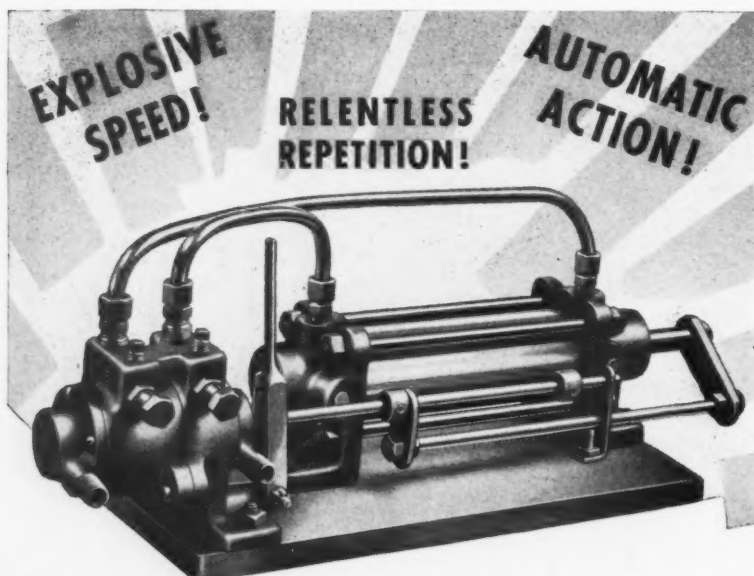
From Charter to Globe Girdling

As is usual in this enterprising nation, however, alert individuals are beginning to find profit in solving these problems. Innumerable little groups of veterans, back from the Army Air Forces, are launching their own little ventures into this field. Usually the nest-egg of savings goes into a string of surplus war planes. The dream is, first, a charter service; later, a regular air transport line; and, ultimately, a dazzling, globe-girdling network of airlines.

Dreamers or not, these youngsters usually have a good deal of horse sense when it comes to turning an immediate dollar. They know the owner of a small plane may well spend 30 per cent of the craft's original cost each year for upkeep and servicing. Hangar space can be rented, gasoline and oil sold, flying lessons given, engines overhauled. Virtually every one of these neophyte ventures includes some provision for cashing in on one or more of these opportunities. Thus grows the aerial service station business of the future.

The big oil companies have not been asleep to the opportunities here. Already a voting trust controlled by Union Oil Company is busily building a far-flung chain of aerial "super service stations." Operating as Pacific Airmotive Corp., this company, with some 700 employees, is assigning dealerships through the West, and in Mexico, Central and South America, and the Orient.

Aircraft sales are expected to account for the biggest percentage of its business, which currently is grossing about \$5,000,000 annually but is expected to expand



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three to six fold within the next several years. Not stopping with sales, the company will back them up with customer service extending from fueling and maintenance to engine exchange.

Buying Army Spare Engines

Surplus aircraft components may prove an auxiliary source of profit to some of the new operators. One local syndicate of veterans who bought 80 ex-bomber training planes is banking heavily on cutting maintenance costs for its fleet by investment in Army spare engines. These they expect to get at a price well below the actual overhaul cost of an engine, since the ship is an "orphan" model for whose engines there will be virtually no market other than to buyers like themselves.

Among these veteran ventures that have already established themselves firmly is the Flying Tiger Line. These former flyers of General Chennault have further expanded an impressive volume of aerial freight with contracts calling for 15 to 18 planeloads of merchandise per week. One is an arrangement with Sears for flight of three planeloads of dresses weekly from New York to Los Angeles. New eastward shippers are two major handlers of cut flowers.

Long-range forecasts by aircraft makers indicate they will want 6500 more workers by next January. Not so many months have passed since this figure would have been a mere fluctuation in the hiring schedule of a single manufacturer—but these days, the industry is seeking earnestly to smooth out the sharp peaks and dips in its production schedules.

Military procurement men are giving yeoman support to these efforts, now that "the impossible—now" is no longer their guiding rule. Though the multi-billion-dollar hurry-up order is a thing of the past, long-range planning is a welcome stabilizer to the industry.

North American Jet

North American Aviation has just been awarded a Navy production contract for a new jet plane, the B-45. This undertaking, plus the recently announced P-82 twin-engine Mustang and the company's four-place personal plane, the Navion, may require a doubling of the company's present working force.

Lockheed is unveiling its once highly secret "Constitution," capable of carrying 180 passengers. Many inspection and service operations formerly done on the ground can be performed in flight, the wings being so large that all four engines and most electrical and mechanical fittings can be reached by tunnels inside the wing. Design features permit easy change-over to gas turbine power.

Menasco reports it is booking new business about as fast as old orders are filled. Recent military schedules totaled well

above \$125,000,000, with a commercial backlog nearly half this size. This company's backlog of military gas turbine and jet engine work has risen to more than \$8,000,000. AiResearch likewise recently revealed a substantial accumulation of orders for cabin pressure regulators for commercial and military aircraft.

This parade of engineering progress abundantly proves that whatever factor may cramp this area's industrial development, it won't be a shortage of technical brains. A. W. Weigel, local secretary of the American Society of Mechanical Engineers, reports that membership of local engineering societies has more than doubled since 1941 and the influx of me-

chanical engineers alone from other areas is now running from 50 to 100 men per month.

A Quarter Million Visitors

Not all the new arrivals are technological wizards. They are but part of a vast new wave of westward travel that has swept across the country in recent months. Indeed, not since the San Francisco exposition of July, 1939, has such a flood of tourists poured into this state. This July, all existing records were broken when 282,285 visitors streamed across California borders in 96,321 automobiles. Not merely summer vacationers, either, for all year, twice as many out-of-state cars have



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been passing the plant quarantine stations at state borders as in 1940.

What effect this movement will have upon the labor market is a matter for much speculation. No one can see just where additional thousands of newcomers can be housed, whether they be here to seek a job or to spend their money on a good time. Left to its own devices, southern California might well be able to absorb its wartime population gains without too painful dislocations. Will these newcomers stay to be customers for Western industry—or will they merely become new faces in the unemployment queues?

With the major surgery of reconversion now over, southern California industry is rapidly recovering from amputation of nearly a third of its working staff. Illustrating how the fever has subsided, only half as many compensable claims for unemployment pay were being received during August as compared with last February.

Since V-J Day, more than 500,000 jobless workers had filed claims in Los Angeles County, but on August 1, only 11 per cent of this number were drawing compensation pay.

Added to this huge transitional movement was the influx of 220,000 veterans who filed Servicemen's Readjustment allowances; yet on August 1, only 20 per cent of them were actually receiving pay.

San Diego, of course, took a body blow when the war's end struck at both its

war industry and its huge military and naval activity. Manufacturing employment dropped from nearly 50,000 in 1945, to about 17,000 recently.

Shifts into the 100,000 civilian jobs now comprising the total local labor market has helped it resettle. Job turnover is now running at about 8500 per month, chiefly in restaurants, laundries, stores, and other service trades. Jobless checks meanwhile are going out at the rate of 6340 for civilians and 6104 for veterans—a weekly distribution of about a quarter million dollars.

People who think of employment in terms of new avenues of trade are asking, Why should southern California's market area end at the Mexican border?

Mexico Buys All-Aluminum Buses

Proximity of Los Angeles manufacturing plants to rail and harbor facilities for export should bring Mexico's wealthy capital city into their natural sphere of influence, in the opinion of Robert A. Trumpis, of Trumpis-Collar and Associates. Just back from a survey of industrial potentials in Mexico City, Trumpis brought with him a pioneer order for 500 all-aluminum buses. The design calls for a 35-passenger unit of skin-stressed construction, a technique borrowed directly from aircraft.

Plans are to build the bodies in panel form and ship them by water to Acapulco.

Basic extrusions are to be turned out by Harvey Machine, operating the former Bohn Aluminum plant, while several ex-aircraft subcontractors are figuring on the fabrication.

Trumpis points out that Mexican natural craftsmanship offers the dexterity for good assembly work, while necessary machine tools are located strategically in southern California near tidewater—an ideal combination for a healthy export business. He says that there is an interest in and demand for such products as simple electric home heating apparatus, household appliances, and transportation equipment.

Local seers are pointing out that California's year-round sunshine made Los Angeles the world's movie capital. Why not also the capital of the photographic industry? Southland boosters now tally 13 companies making cameras here and say (1) that manufacture of photo gadgetry is a natural for ex-aircraft subcontractors with imagination plus knowledge of the field; and (2) that the industry is a long-profit business over-ripe for competition.

Electronics Show

A radio show, of equipment and parts from the plants of Western manufacturers, will be given by the Pacific Coast Electronics Association at the Elks Club Temple, Los Angeles, Oct. 18-20. A similar show was held in 1944.

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REGIONAL REVIEWS

CONTINENTAL DIVIDE

DENVER—On every hand, industrial executives in the mountain and prairie states of the West are finding evidence that better times are just ahead.

One reports that the veterans are getting fed up with drawing unemployment compensation and resting; many are going to work, at last, to the great relief of employers. Another businessman notices that building is going on at a furious pace, despite known shortages of materials and building mechanics.

And those who tally up figures on agricultural production are visualizing buyers with bulging pocketbooks, eager to spend their money now that stores are beginning to have something worth buying. Instead of the slump the wiseacres had anticipated, it looks like the region is coming through the postwar period without having to make the expected drop into low gear. Looks like the short pull in "second" did the trick.

Volcanic Blocks

Forgotten volcanoes spewed the stuff that is licking New Mexico's shortage of building material. Business buildings, homes, and structures of every conceivable kind are being made with blocks made of pumice and scoria.

Not unlike cement and cinder blocks in size and appearance, the volcanic blocks are lighter, cheaper, more water-repellant and have better insulating value. Bureau of Mines tests rate them tops in their margin of safety above building codes. Molten froth that formed pumice is full of minute air cells which impart high insulating value.

Already 17 deposits of pumice and scoria in New Mexico are being developed, with many more likely to be found, according to Director E. C. Anderson of the New Mexico School of Mines at Socorro. The volcanic blocks are being made in more than 60 new block-making plants that have sprung up since the war ended, more than half of them in Albuquerque. It takes an investment of at least \$5,000 to establish one of the plants, and at least 1,000 persons are employed in this new industry.

The New Mexico Bureau of Mines supplies instructions for setting up shop in the volcanic block business, with technical data showing ratings on the product as made with varying mixes of pumice, sand, and cement. One of the most popular mixes uses almost no water at all. What tickles the people of New Mexico is that the building material works to perfection with characteristic New Mexico architecture, born of the volcanic-block's humble cousin, the adobe.

One of Montana's most beautiful ghost towns is Benbow, relic of the early years of war when blitzkriegering Nazis dominated the Mediterranean area, cutting off supplies of chrome. Benbow and its neighboring camp of Mouatt were built in southern Montana's beautiful Beartooth Mountains on the upper reaches of the Stillwater, about 50 miles southwest of the Yellowstone Valley town of Columbus. Just about the time the Montana chrome deposits

were getting into real production, the Allies managed to open up the European chrome deposits and out like a light went the U. S. chrome mines in Montana, which had been operated for the government by the Anaconda Copper Co. What to do with the model mining camps presented a problem that fascinated everyone who had seen their well-built houses, complete hospitals, unscratched bowling alleys, and spotless kitchens.

So far as Benbow is concerned the answer has been supplied by a government project to provide housing in the always-thriving little city of Billings. The Landon Construction Company of Casper, Wyoming, has dismantled the whole kit and

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kaboodle of Benbow and reconstructed buildings, houses, streets, sidewalks, sewers, and all the rest at Billings. Benbow might have fared far worse.

Political Undercurrents

Politics is causing many a headache in the mountain and prairie states this year. Nobody can figure out just what is taking place. Liberal forces are rejoicing over the election of Leif Erickson as the Democratic candidate for the U. S. Senate in Montana, having wiped out Senator Burton K. Wheeler's chance for reelection.

Wheeler's bold stand against American entry into the war accounts for his defeat. But the Republicans think the tide is flowing their way and that they can handle the left-wing farmer, who is a former justice of Montana's Supreme Court.

Erickson is a leading exponent of the plan to set up a Missouri Valley Authority patterned after the TVA. Coming from a prominent Farmer's Union family, he can count on much rural support as well as the potent organized labor legions in Butte and other industrialized areas.

Republican nominee Zales Ecton has some almost insurmountable hurdles to get over to beat the popular and widely-known Erickson, regardless of the political tides.

Wyoming isn't likely to pass up its opportunity to re-elect its great Senator Jo-

seph C. O'Mahoney, a Democrat but seldom a New Dealer.

Colorado, with no Senate seat to fill this year, presents no contests of great interest although of the four Republican incumbents in the House of Representatives there is one—Dean Gillespie of Denver—who may show up missing after the votes are counted. A Republican businessman whose support even among businessmen is only luke-warm, Gillespie is up against a smooth young lawyer, John Carroll, who has many Republican supporters as well as strong backing from organization Democrats and the unions.

Both candidates for governor of Colorado are able men, even their opponents will concede, and there the issue will be fought out essentially on party lines with Republican (state treasurer) Leon Lavington given only a 50-50 chance to beat Democrat (state Supreme Court justice) Lee Knous. Lavington is one of the brilliant liberal Republicans brought into the state government a few years ago when Ralph Carr was governor, and how much support he will get from the reactionary party leaders who control the money bags is the issue that will decide the election.

That element, which deprived Colorado of one of its ablest statesmen in the current generation when it knifed Ralph Carr in the back, may do the same thing to Leon Lavington. However, that is not likely be-

cause Lavington's opponent is a strong union man of whom leading financial and industrial men are somewhat fearful, whereas Carr's opponent at the time of his defeat was Senator Ed C. Johnson who always has been the darling of the conservatives, though a Democrat.

More Cement Needed

Ideal Cement Company's already-big cement plants at Portland near Canon City, Colorado, and at Devil's Slide, 30 miles east of Salt Lake City, are undergoing a major expansion program, slated to cost more than \$5,000,000. Booming sales for industrial, highway, reclamation, and residential construction are credited with the expansion. The changes will be made this winter. Volume of shipments this year has been running 40 per cent ahead of 1945 figures. The company is an important unit in the Boettcher-owned industrial empire.

Wireless Phones in Use

Telephone company officials are trying to minimize the significance of the world's first installation of two-way short-wave radio equipment providing telephone service for eight isolated rural subscribers in Colorado's high plain country near Cheyenne Wells.

It is only an experiment, the Mountain States T. & T. technicians say, and they have no intention of using the radio phones right away on any wholesale basis. So far

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the ranchers who are on the new hookup have been too busy to do much talking but they admit they have found a good bit of time to listen. The receivers are "on" all the time.

Trouble is, there are so few people on the line that their conversation isn't very interesting. Rural lighting plants power the farm transmitters. The farthest farm, 20 miles from town, has a transmission pole 60 feet high, but closer transmitters are only 30 feet high.

Transmission is limited, like television, to line of sight, which is one reason the test is being made on Colorado's flat prairies and with high towers. The central mast in Cheyenne Wells is 79 feet high, topped by a 10-foot aerial. Despite the protests that this is "only an experiment" there is so much interest in this epoch-making step that many other A. T. & T. Company "experiments" of like nature may be expected before long.

Oil Aplenty in U. S.

Uncle Sam's vast public domain, principally in the mountain and prairie states of Montana, Wyoming and Colorado, will supply all the oil the United States needs in the future without requiring imports from foreign countries, Senator Joseph C. O'Mahoney of Wyoming declared recently. He was refuting the statement of a State Department official to the effect that the United States had better keep its hand in the Near East and Middle East so that the oil found there can be safeguarded for use in America after all our oil is gone.

O'Mahoney pointed out that oil experts figure that the states of Wyoming, Colorado, and Montana will be supplying oil long after other states have squeezed out their last drop of petroleum, and that the recently adopted act liberalizing oil leasing on the public domain will result in greatly stepped-up drilling programs.

This was borne out by a recent report to the Interstate Oil Compact Commission by Wyoming's state mineral supervisor, Pierre La Fleiche, who pointed out that on the basis of proved oil reserves and current rates of withdrawal the states of Wyoming and Colorado will be producing oil for years after the other states have stopped, and that Colorado will be carrying on alone for several years after Wyoming has joined the ex-oil states of Oklahoma, California, Kansas, and the rest.

And, as Senator O'Mahoney pointed out, the nation's major store of hydrocarbons for use after petroleum and natural gas stores are exhausted also happen to be in the Rocky Mountain area—the great oil shale deposits and, finally, the hemisphere's greatest deposits of soft coal, which underlie much of Montana, Wyoming, and Colorado. America needn't look abroad for oil, no siree!

Wanted—A Bonanza

Keep one ear tuned for news of a sensational strike of gold or silver. The stage is all set for another Cripple Creek, Sutter's Mill, Klondike or Comstock Lode. What's more, thousands of prospectors are swarming into the mineralized areas of the West, many equipped with the most scientific doodle bugs and equipment for detecting ore bodies that would have been overlooked in earlier years.

The recent boost in the price of silver is partly responsible for the increased exploratory activity, along with hopes that Uncle Sam will soon have a change of heart and let his miners sell their gold in

the world market to the highest bidder, which would mean a very substantial boost over present prices paid by the government.

But there is no great element of glamor in the thousands of small operations and big low-grade operations now swinging into important development work looking toward early production. That is why the country is awaiting the old cry of "Eureka!" That word, meaning *I have found it*, first was used by Archimedes when he discovered a way to test the purity of the gold in a forgotten king's ring. Prophecy: Within 17 months there will be a gold rush of major importance, somewhere in the Rocky Mountains.

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REGIONAL REVIEWS

THE WASATCH FRONT

SALT LAKE CITY. — Visions of a post-war industrial resurgence in this area to bolster up a sagging pre-war economic structure are beginning to look more and more like realities. With Geneva steel plant getting back into production as rapidly as the shortage of freight cars will permit, that keystone to the hoped-for economic rejuvenation appears to be safely over the hump except for freight rate adjustments.

Delay on the part of the railroads in saying "yes" or "no" to U. S. Steel Corporation's application for an \$8 rate on finished steel to all Pacific Coast points is causing some concern. The matter was continued indefinitely by the transcontinental rate bureau at a recent meeting in Chicago on the grounds that no action should be taken pending disposal by ICC of the carriers' petition for a general freight rate increase.

If the adjustments sought are not granted voluntarily the state, and presumably other interests, will seek to force the issue. Some of the railroads have un-

officially indicated a willingness to publish the proposed rates.

The expected interest of steel fabricating companies in the Central Utah area once the future status of Geneva was assured is beginning to stir. No plans for establishment of satellite plants have been announced but several companies have been looking for sites and facilities. One firm has reportedly acquired property for a specialized machinery manufacturing enterprise.

Rubber Plant at Nephi

The Thermoid Rubber Products Co. has started construction of a plant in Nephi and expects to start moving in machinery by mid-December. The plant will produce brake lining, clutch facings, radiator hose, belting and other products used in the automotive industry.

Union Portland Cement Co. has announced that it will start construction of a new \$2,000,000 plant at Devils Slide as soon as materials are available. A \$450,000 construction program involving stor-

age silos and a packing plant is nearing completion. When the expansion is completed the productive capacity of the company will be approximately trebled.

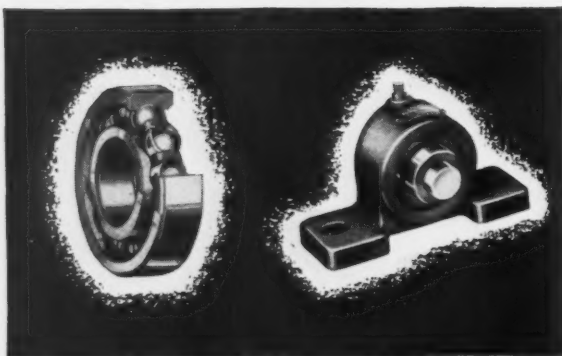
Salt Lake Chamber of Commerce officials report that they are receiving numerous inquiries as to availability of buildings for manufacturing purposes. But at present they can offer little help. Industrial buildings are as scarce as office space and that is virtually unobtainable. The Utah Ordnance plant, built by the government for the manufacture of small arms ammunition, has been declared surplus. But the best industrial structures will probably be retained for several months by the War Assets Administration for storage of surplus property. The layout consists of 5,000 acres and about 175 buildings, many of which have no peacetime use.

Officials of the Monsanto Chemical Co. of St. Louis, have been exploring Utah and other intermountain states for a phosphorus plant location. In Utah they inspected phosphate beds in the northern and southeastern sections of the state. Neither deposit is close to a large electric power supply—one of the major cost factors in phosphorus production—and one of them is more than 100 miles from a railroad.

Oil explorations are being intensified over a large section of Utah and several coal processing ventures are in the embryo

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stage or getting under way on a small scale.

It all adds up to a much brighter picture than the one confronting the area prior to the war. For in the quarter of a decade prior to 1940 basic employment in the area remained stagnant or contracted slightly. Increasing population was forcing a top-heavy expansion of service industries on a shrinking base and the whole structure was threatening to topple over—indeed had toppled over in some respects.

Aside from war industries, Geneva steel plant provided the first substantial expansion of basic employment in the area for more than 30 years.

Stymied by Freight Car Lack

So far as orders are concerned, Geneva could now be operated at capacity. And so far as personnel is concerned it could be moving toward maximum production at a more rapid rate than it is. The limiting factor is railroad cars. Neither coal nor ore can be delivered in sufficient quantities to keep all three blast furnaces going. As of early September the facilities in operation were two of the four batteries of coke ovens, two of the three blast furnaces, three of the nine open hearths, the slap mill on a single turn basis and the plate mill on a two turn basis.

Union Pacific Railroad has ordered 1,000 cars at a cost of \$5,000,000 to give the plant adequate transportation service but that promises relief only at some indefinite future date.

The state's grandiose dreams of large power and reclamation projects on the Colorado River have been disturbed recently by nightmarish intrusions of a large and hard fact—that the problem of dividing the waters of the stream is a long way from settled. Points of friction appear to be increasing rather than decreasing, a situation that was underscored by the recent withdrawal of California and Nevada from the committee of 14.

87% of Coal Mine Injuries Avoidable

Eighty-seven per cent of all coal mining injuries are avoidable, reports Henry Binch of the legal department of Utah Fuel Company. The company's compiled records over the last 15 years show that injuries were classified as follows:

- 80% are fault of the injured
- 4% are fault of fellow employees
- 1% due to faulty tools
- 2% fault of poor supervision
- 13% are trade risk

"The 13% trade risk are unavoidable incidents that happen in the course of economic events—in spite of all precautions," says Mr. Binch.

"Now if you will look again at the top two causes of accidents, you will note that they add up to 84% of the total and that

they are the fault of either the injured or their fellow employees. The employer's direct responsibility is involved mainly in the other 16%.

"What is the nature of all these mishaps? Looking over the table of injuries for 1946, thus far, we find that 3 have resulted from fall of roof or rock; 4 from fall on face or ribs; 15 from haulage operations—switching, coupling, etc.; 8 from contact with machinery; 2 from electricity; 12 from fall of person; 10 from falling objects; 8 from handling materials; 5 from miscellaneous causes. These are figures for accidents inside the mine.

"For the same period, outside, the figures are as follows: 4 from fall of person; 1 from railway cars; 1 from tippie ma-

chinery; 1 from electricity; 1 from handling materials. These 8 injuries, added to the 67 inside-the-mine accidents, make a total of 75."

Western Purchasing Power

The eleven Western states have a purchasing power \$270 per capita higher than that of the United States as a whole, according to Nathanael Engle, head of the Bureau of Business Research, University of Washington. Speaking at the Pacific Advertising Association conference at Phoenix, he said the West's population had increased from 14,000,000 in 1940 to 16,350,000 in 1944, and the purchasing power per capita from \$675 to \$1,325 in the same period.

HEADQUARTERS

FOR FREIGHT HANDLERS' EQUIPMENT

Put the heavy loads on wheels—call Colson Equipment and Supply Company. At Colson, every style and kind of truck is available from platform trucks with push handles, pipe stakes or side slats to the famous Colson Lift-Jack System with wheeled skid and lift jack. There are light, medium and heavy duty hand trucks . . . drum handling trucks . . . dolly trucks . . . furniture dolly trucks . . . and wagon trucks, as well as special tray trucks and clothes hamper trucks.

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LOS ANGELES

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Material Handling Equipment



LABOR AND THE INDUSTRIAL WEST

HONORS to date in the AFL-CIO fight for control of the cannery workers of Northern and Central California go to the AFL, but the battle is not yet settled.

Especially not since the CIO victory of last year was successfully disputed by the AFL.

Even if the 2,056 challenged ballots cast in the August election (AFL 16,262, CIO 14,896) all go to the AFL, giving it the majority which automatically certifies it as bargaining agent, objections filed by the CIO will still leave the matter open for decision.

The election, largest held west of the Mississippi, was conducted in approximately 60 plants, all members of the Association of California Processors and Growers.

Ballots were printed in four languages other than English: 5,000 in Spanish, 4,000 in Italian, 3,000 in Portuguese and 700 in Chinese.

At the same time the election was held in association plants, separate elections were conducted in 12 other plants not members of the association. In these, six were won by the AFL, five by the CIO, and one still remains in dispute.

In all elections a total of 39,025 votes were cast, a figure representing about 80 per cent of the electorate.

One aspect of the election that so far has escaped general comment is that the greater part of those voting for the CIO are actually paying dues to the AFL.

Last March after being ordered by the NLRB to recognize neither union, the California Processors and Growers decided nonetheless to renew their contract with the AFL. Armed with their contract the AFL then insisted that it collect dues from all workers since it was the only union to represent workers officially. So far, the CIO has apparently winked at its adherents paying dues to its rival.

Such latitude, however, should not seem too extraordinary in the CIO which shows marked ingenuity in its public relations.

Evidence of this ingenuity is found in the timeliness of an announcement by the California CIO Council appealing to all local unions of the CIO in California to lend both moral and financial aid to the AFL's Lumber and Sawmill Workers, now in their eighth month of striking against Redwood lumber producers.

Said the *Labor Herald* in commenting on the move: "The CIO move to help a bona fide AFL union in a tough battle came at the same time as an announced campaign by AFL leaders to raise a \$250,000 war chest for the special purpose of fighting the CIO."

Denver WSB Office Closed

Closing of the Denver office of the Wage Stabilization Board on October 1 adds the states of Montana, Idaho, Utah and New Mexico to the area covered by the San Francisco regional office of the Board. San Francisco already was handling the three Pacific Coast states, Arizona, Nevada, Alaska and Hawaii. Colorado and Wyoming have been added to the Kansas City territory, but non-ferrous metals cases will come to San Francisco. Local Wage and Hour offices will continue to act as receiving centers for wage increase applications.

Not a minute lost in 9 years for lack of lubrication

BACK in 1937 a large Detroit metal fabricating plant installed Farval centralized lubricating systems on its metal-forming presses—a total of 133 systems, serving 3100 bearings.

In the 9 years since then, no machine has been down to lubricate or to repair the lack of lubrication. Farval saved the labor cost of 11 oilers per 24-hour day. Even more important during the war and post-war years has been the elimination of delays to production, such as were caused in the old days by stops for oiling, stops for repairs, stops for bearing replacements. Farval has paid for itself many times over.

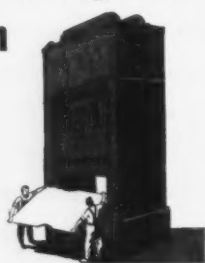
Farval delivers oil or grease under pressure to a group of bearings from one central station, in exact quantities, as often as desired. Farval—the Dualine System with the Positive Piston Displacement Valve—that has but 2 Moving Parts—is Fully Adjustable—and with a Tell-tale indicator at each bearing to show the job is done.

Savings comparable to the above can be made on your equipment with Farval. Write for Bulletin 25. The Farval Corporation, 3269 East 80th Street, Cleveland 4, Ohio.

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for Better Belt Joints

To keep belts in service longer, use only **GENUINE Clipper Belt Hooks** applied with **Clipper Belt Lacers**.

use Clipper Belt Hooks

Clipper Hooks are made of the finest quality wire—**BETTER** than ever before—produced for our exclusive use. Hooks hold with firm, sure grip—give longer satisfactory service.

and Clipper Belt Lacers!

The Clipper No. 9 Portable Lacer laces belts up to 6 inches wide in one quick, easy operation. Under powerful pressure hook legs are embedded flush with the surface of the belt and points clinched, making a perfect joint. Phone your mill supply jobber for a demonstration!

CLIPPER BELT LACER COMPANY, GRAND RAPIDS 2, MICHIGAN, U.S.A.

Clipper
BELT LACING EQUIPMENT

Decision on Crossing Pickets

The Appeals Board of the California Department of Employment has denied unemployment insurance to a claimant who refused to cross a picket line during the machinists' strike in the San Francisco Bay area last winter. The employees of the company concerned were afforded police protection and were escorted through the lines to work, but the claimant refused to avail himself of this protection.

Claimant's refusal to cross the picket line was a voluntary choice, the Board ruled, and therefore under previous California Supreme Court decisions was barred from receiving insurance. The Board distinguished this case from one in which benefits were allowed because in the latter instance employees were prevented by hostile pickets from going to work and no protection was furnished.

Political Rights of Employees Upheld

Action for damages may be brought by employees injured as a result of the employer's violation of the California Labor Code provisions protecting employees in exercise of their political rights, the California Supreme Court has held.

A group of Lockheed employees alleged that the company had discharged them for violation of Section 1101, which provides that no employers shall make, adopt, or

enforce any rule, regulation or policy forbidding or preventing employees from engaging or participating in politics or from becoming candidates for public office; controlling or directing, or tending to control or direct political activities or affiliations of employees.

However, if an employer is satisfied the employees' political beliefs advocate the overthrow of the government or that such employee is not loyal to the U. S., he may discharge such employee without penalty. It was ruled the section does not prohibit an employer from publishing his political beliefs among his employees.

Employer Groups Plan For Teamwork

A conference of industrial relations executives which included representatives from seven Western states was held at Lake Tahoe, September 7-9, sponsored by the Northern California employers associations conference group.

Complete agreement was reached for strengthening management teamwork in dealing with government agencies. States represented were California, Oregon, Washington, Utah, Colorado, Arizona and Nevada. Quarterly conferences are planned hereafter.

Change From Salary To Commission Forbidden

Employers who change the compensation of a veteran from a salary basis to

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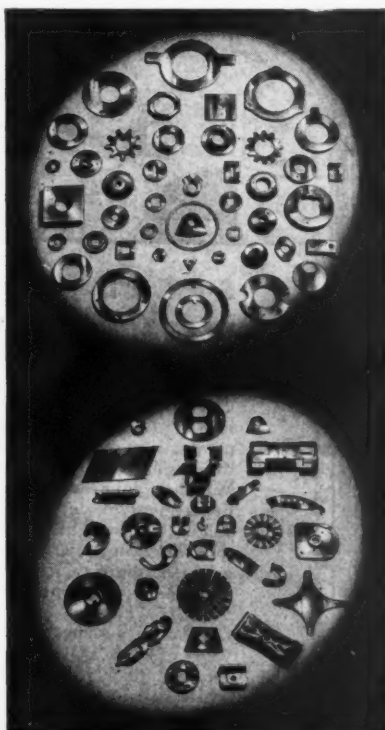
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We gave you the very best that we knew how to give; and you made us the largest California-owned manufacturer of Compressed Gases.

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LOS ANGELES

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that of a commission are guilty of violation of the Selective Service Act, according to a recent ruling of the Federal District Court, Southern District, California.

In the case of Hoyer vs. United Dressed Beef Co., Inc., the court ruled that, even though the job was not profitable to the employer on a salary basis, the veteran must be restored to a position with com-

pensation equal to that originally given him upon his reemployment after discharge from the service.

Pension Plan Abandoned For Profit Sharing

After three years' trial of a pension plan for its employees, the Pacific Screw Products, Inc., has replaced it with a profit-

WAGE AND COST OF LIVING SURVEY

A comparison between the Seattle-Tacoma area and other cities. Compiled by Industrial Conference Board August 1, 1946

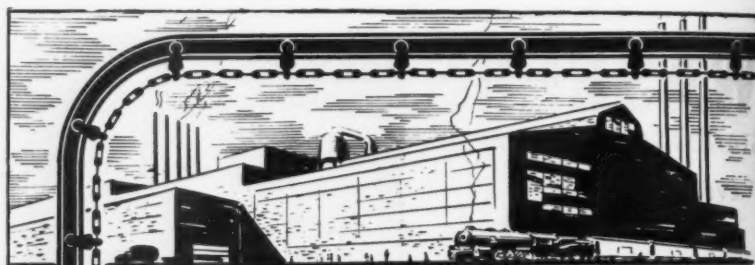
	Seattle-Tacoma	Atlanta	Denver	Milwaukee	Minneapolis	Portland	Richmond, Virginia	St. Louis
Cost of Living Index	1.03	.93	.93	.97	.94	.97	.95	.95
% under Seattle-Tac.	.....	-9.7	-9.7	-5.8	-8.7	-5.8	-7.8	-7.8

KEY JOBS AND RATES

Construction Labor	1.275	.65	1.10	1.10	1.15	1.15	*	1.10
% below Seattle-Tac.	.....	-49.0	-13.7	-13.7	-9.8	-9.8		-13.7
Metal Trades Helper	1.10	.65	.82	.84	.85	.975	.66	.80
% below Seattle-Tac.	.....	-40.9	-25.5	-23.6	-22.7	-11.4	-40.0	-27.3
Truck Driver	1.20	.675	.85	1.00	.97	1.06	.72	1.00
% below Seattle-Tac.	.....	-43.8	-29.2	-16.7	-19.2	-11.7	-40.0	-16.7
Linotype Operator	1.807	1.525	1.60	1.45	1.50	1.5625	1.125	1.46
% below Seattle-Tac.	.....	-15.6	-11.4	-19.8	-17.0	-13.5	-37.7	-19.2
Warehousemen	1.05	.65	.85	.80	.87	.975	.70	.75
% below Seattle-Tac.	.....	-38.1	-19.0	-23.9	-17.1	-17.0	-33.3	-28.6

*Rate unknown.

The average index for all principal cities combined is .96; which is 6.8% below Seattle-Tacoma. The average of all these cities as to the above key rates, however, show respectively, -18.4%, -27.3%, -23%, -19.2% and -23.9% below Seattle-Tacoma.



SPEED UP PRODUCTION WITH CONVEYOR MAGIC!

Through the wide range and versatility of American designed CONVEYOR SYSTEMS, your present plant can be modernized to give you efficient, economical, time-saving, streamlined production—equal to the finest, up-to-the-minute plants newly designed, and built expressly for straight line production.

Whether your need is for a continuous flow system from department to department to handle a full range of sizes, shapes, and weights; or a portable unit to speed handling on the packaging, warehouse, or shipping platform; American engineers have the right answer, and will specify the correct equipment and application to fit your requirements MOST EFFICIENTLY.

Let American specialists design, engineer, and install the CONVEYOR EQUIPMENT to bring your plant up-to-date. Or if you plan NEW construction, consult American Engineers while still in the blue-print stage. Your inquiry will receive our immediate attention.

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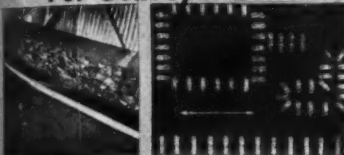
ALHAMBRA

CALIFORNIA

Present Day Practice in Belt Fastening

Every man who has anything to do with the purchase, application or maintenance of conveyor, transmission or V-belts will find the bulletins listed below of considerable value in connection with belt fastening work. A knowledge of present day practice in belt fastening helps reduce the loss in machine hours due to belt failures caused by the use of the wrong type of fastener or improper application. We shall be glad to send any or all of them to you or to any of the men in your organization.

For Conveyor Belts



FLEXCO HD Belt Fasteners are used to make a "water-tight" butt joint in conveyor belts ranging from $\frac{1}{4}$ " to $1\frac{1}{2}$ " thick and of any width. The view on the right shows the various types of rips and patches that can be made with these fasteners and Flexco HD Rip Plates.

Bulletin F-100 gives complete details on how to fasten and repair conveyor belts.

For V-Belts



ALLIGATOR V-Belt Fasteners are now being widely used to fasten B, C and D, open-end V-belt of cross woven fabric core construction now being made by most belting manufacturers. The view at the left shows a typical application of these fasteners to a drive where endless V-belts would require dismantling the machinery to put the belts on the sheaves.

Bulletin V-205 gives complete instructions on how to use V-belt fasteners.

FLEX V Fasteners for A and B belts are also available for lighter duty V-belt drives. Ask for Bulletin V-14.

For Transmission Belts



"JUST A HAMMER TO APPLY IT"
ALLIGATOR Steel Belt Lacing is in world-wide use to make smooth, flexible joints in leather, rubber, balata, stitched canvas or solid woven belts up to $\frac{3}{8}$ " thick and as wide as they come.

Bulletin A-40 tells how to fasten and repair transmission belts.

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sharing plan through which disbursements are made four times a year to employees.

Highlights of the plan are: all employees are eligible on completion of six months continuous service with the company; allocations are made on the basis of units which in any employee's case equal the number of dollars earned by him in the profit sharing period, plus an allotment of 75 units for each completed year of service; all monies paid into the profit-sharing fund by the company are not recoverable by the company and must be disbursed to the employees.

Only 20% of Washington Jobless Draw Maximum Compensation

Twenty per cent or 29,000 workers in the state of Washington remained unemployed long enough during the year ending June 30, 1946 to draw the maximum unemployment compensation of \$25 a week for 26 weeks, according to an Industrial Conference Board Bulletin.

Of the nearly 163,000 workers who filed for unemployment benefits in the state, 146,000 were found eligible for compensation. Of this number, however, only 126,500 drew any benefits.

Total amount paid out during the year in compensation came to \$35,934,257. Peak in benefits was reached early in March. By June volume of payments had decreased to only 62 per cent of the March outlay.

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MOTOR MICA

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Packed in 5-10-25-50-100 lb. containers

Here is a tried and proved product that will cool hot bearings... solve your toughest lubricating problems.

By simply mixing a little Motor Mica with your heavy oils or greases as directed, lubricating properties

will be greatly increased. . . . Saves wear on bearings, gears and other moving parts.

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Added to cutting oils, Motor Mica saves tools and produces cleaner, smoother surfaces. Gives cleaner draws and reduces upkeep on dies for deep-drawing and punch press operations. A little goes a long way. America's largest industries use Motor Mica regularly.

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If a flexible coupling is so designed that its continuous use requires lubrication . . . and you know before you install it that this coupling is not going to get that lubrication . . . **you are heading for trouble.**

Flexible couplings are generally installed in positions where they are hard to reach . . . in fact they are so inconspicuous they are hardly noticed. It is the old story of "Out of sight, out of mind."

There is enough trouble encountered in the operation of high speed machinery. Why ask for more? Install **FABCO FLEXIBLE COUPLINGS** which do not require lubrication. That is an easy and satisfactory way to avoid trouble.

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THE WESTERN OUTLOOK...NEWS...STATISTICS

THE PICTURE

Latest developments in the statistical picture of the West, compared to the month last reported, include the following:

Employment (Aug.), continued rise
Plywood (July), 21% down
Pulpwood (June), slight rise
Copper (July), 61% rise
Oil (July), slight rise
Coal (June), up 50%
Metal Products (May), down
Electric Energy (July), up
Freight (Aug.), upward jump

Employment

In the industrial centers of the West the trend in employment was upward for industry in general. In the Pacific Northwest especially reports show that far healthier conditions are growing than existed last spring.

Production workers in durable goods industries of California reached the figure of 260,800 in August, highest figure for that month this year, according to the state's Department of Industrial Relations, Division of Labor Statistics and Research.

EMPLOYMENT—DURABLE GOODS INDUSTRIES (Figures from Calif. Div. of Labor Statistics)

	San Francisco Bay Area	Los Angeles Indust'l Area	Total State
February 1946	33,700	127,800	206,400
March	34,400	132,200	211,800
April	32,300	129,600	231,400
May	37,200	126,400	235,500
June	61,800	134,900	251,800
July	61,700	137,400	255,900
August	62,400	140,000	260,800

Lumber—Cumulative

Reports on lumber production for the first 31 weeks of 1946, compared with the same period in previous years, and measured in thousands of board feet, are as follows, according to West Coast Lumbermen's Association:

	31 Weeks 1944	31 Weeks 1945	31 Weeks 1946
Production	4,803,749	4,126,007	3,520,561
Orders	5,063,124	4,397,471	3,480,147
Shipments	4,858,017	4,159,209	3,552,420

Western Pine Association figures covering Idaho White Pine, Ponderosa, Sugar Pine and associated species for 1946 through the week ending August 31, and compared with the same period for the preceding year, are as follows:

	1945	1946
Production	2,064,205	1,795,675
Orders	2,179,841	1,829,650
Shipments	2,188,757	1,871,988

Employment

Estimated Number of Employees in Non-Agricultural Establishments—In Thousands—Source: U. S. Bureau of Labor Statistics

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
January 1946	109	95.5	68.9	255	82.8	99.5	130	40.6	881	512	290	2,181	2,933
February	108	95.8	62.3	252	81.1	101.0	127	42.4	870	512	291	2,208	2,909
March	110	98.1	61.3	260	81.2	102.0	130	42.4	885	514	295	2,249	2,958
April	109	96.6	56.4	256	81.1	96.6	129	41.7	868	521	297	2,332	2,958
May	112	97.7	58.5	264	84.6	98.7	134	42.9	892	528	302	2,368	3,198

	Montana	Idaho	Wyoming	Colorado	New Mexico	Arizona	Utah	Nevada	Total Mountain	Washington	Oregon	California	Total Pacific
January 1946	9.6	17.1	5.3	47.6	8.1	6.8	15.2	1.3	111	136	76	567	770
February	12.9	16.8	5.4	42.3	8.2	10.9	17.9	3.4	118	162	110	550	845
March	13.6	16.9	5.4	47.8	8.4	10.9	18.1	3.3	124	160	110	558	846
April	13.9	17.3	5.5	47.0	8.6	10.9	17.9	3.4	124	160	107	594	861
May	14.4	17.4	5.4	47.8	8.7	10.2	18.3	3.4	126	157	106	955	850

MANUFACTURING

Warehousing—Percentage of Space Occupied

(Figures from 100 warehousing firms. Source: Bureau of the Census)

	Mountain and Pacific Division	Idaho	Montana, Utah and Wyoming	Arizona, Nevada and New Mexico	Colorado except Denver	Washington except Seattle	Seattle	Oregon except Portland	Portland	Oregon	California except L.A. and S.F.	Los Angeles	San Francisco
January 1946	89.9	95.9	76.1	95.9	59.5	88.3	90.7	96.2	97.3	97.3	80.8	94.9	92.0
February	90.3	95.5	76.5	91.4	77.3	87.8	91.9	97.1	97.3	97.3	80.9	93.7	91.9
March	91.3	88.2	81.3	94.4	70.7	89.0	94.0	96.9	97.3	97.3	80.5	95.6	93.1
April	90.1	89.7	80.8	94.7	55.7	89.8	97.8	93.7	97.3	97.3	76.9	95.2	92.1
May	89.9	89.6	82.1	97.0	58.1	89.6	93.3	93.0	97.3	97.3	80.8	95.2	92.0
June	88.9	83.6	86.8	94.0	56.8	95.0	84.2	91.3	97.3	97.3	92.6	94.3	92.1
July	86.8	83.6	76.1	91.0	78.8	95.8	85.3	92.9	97.3	97.3	79.2	94.1	91.5

Wholesalers' Sales

(In thousands of dollars. From Bureau of the Census)

	AUTOMOTIVE SUPPLIES		LUMBER & BLDG. MATERIALS		DRY GOODS		ELECTRICAL GOODS		FURN. & HOUSE FURNISHINGS		GROCERIES AND FOOD, EXCEPT FARM PRODUCTS		GENERAL HARDWARE	
	Mountain	Pacific	Mountain	Pacific	Mountain	Pacific	Mountain	Pacific	Mountain	Pacific	Mountain	Pacific	Mountain	Pacific
January	500	2,554	...	...	...	1,432	955	4,211	...	1,322	3,846	...	839	3,385
February	570	1,391	...	...	...	703	941	4,018	...	1,150	2,474	5,913	761	1,725
March	703	1,712	...	...	...	1,548	1,002	4,413	316	1,275	3,804	9,642	1,121	1,589
April	829	2,766	745	1,109	...	1,672	1,092	3,628	317	1,537	3,932	13,869	926	2,387

Electric Energy—(Production for Public Use—In thousands of kilowatt hours. Source: Federal Power Commission)

	MONTANA		IDAHO		WYOMING		COLORADO		NEW MEXICO		ARIZONA		UTAH	
	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946	1945	1946
Jan.	206,308	214,953	93,231	103,386	22,209	19,062	97,960	99,255	44,440	42,252	330,526	248,064	37,908	29,349
Feb.	188,781	189,753	84,619	91,733	18,385	19,945	87,980	86,169	40,066	42,985	297,242	250,759	29,773	29,953
Mar.	195,818	190,177	95,634	100,945	19,135	21,478	98,484	91,372	44,741	43,422	295,689	261,440	32,387	29,810
April	189,951	151,245	108,446	95,160	19,636	21,434	91,413	92,179	45,024	40,740	260,694	291,203	38,449	46,657
May	173,987	176,298	115,524	113,529	22,309	29,058	94,597	90,733	44,350	43,050	277,722	289,657	40,783	44,675
June	168,264	187,668	107,417	115,140	24,173	30,491	91,789	88,581	49,116	50,136	295,584	254,511	41,936	24,516
July	188,034	224,448	123,410	124,204	24,953	30,716	90,264	97,618	50,177	56,529	261,135	238,338	28,101	23,554

	NEVADA		TOTAL MTN.		WASHINGTON		OREGON		CALIFORNIA		TOTAL PACIFIC	
Jan.	234,315	247,675	1,066,897	898,099	954,958	745,231	331,980	304,091	1,259,968	1,032,828	2,546,906	2,945,156
Feb.	206,485	239,069	953,331	950,366	868,143	698,234	295,324	299,660	1,122,227	1,108,091	2,285,094	2,975,940
Mar.	279,405	229,264	1,061,281	976,658	953,643	732,218	366,937	304,367	1,244,797	1,335,395	2,564,477	2,956,473
April	225,309	155,875	975,962	893,839	853,860	685,080	393,408	297,314	1,207,580	1,374,077	2,544,548	2,969,590
May	231,922	183,231	1,001,194	970,231	855,407	685,643	385,759	306,834	1,434,904	1,467,369	2,676,070	2,450,790
June	207,115	195,396	983,394	956,428	785,238	674,469	379,702	294,064	1,413,023	1,480,340	2,577,963	2,448,570
July	191,872	203,895	966,946	1,008,342	789,255	692,397	390,411	308,730	1,589,111	1,628,562	2,768,777	2,629,610

Flour Production—In Western Mills

(In thousands of sacks. From Bureau of Census)

	WASHINGTON		OREGON		CALIFORNIA		COLORADO		MONTANA		UTAH		IDAHO		TOTAL
Month	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g	Flour	Mills Report'g
April	16	2,256	15	1,182	9	679	18	789	15	765	23	424	14	384	110
May	17	2,267	15	1,165	9	572	18	503	15	721	22	555	14	397	110
June	16	2,405	15	1,311	10	510	18	786	15	753	22	465	14	434	109

FROM THE RESEARCH DIVISION OF WESTERN INDUSTRY

Fabricated Metal Products—Shipments

(In thousands of dollars. From Bureau of the Census)

	Los Angeles County	San Diego County	CALIFORNIA S.F.-Oakland (Alameda, Con. Costa, Marin, S.F., San Joaquin, San Mateo, Santa Clara counties)	All other counties	Total California	COLORADO	OREGON	WASHINGTON	GRAND TOTAL
January 1946	43,621	2,029	16,627	2,214	64,491	6,062	7,247	23,231	101,031
February	53,590	1,656	13,788	2,121	71,155	6,633	6,238	19,433	103,459
March	59,447	1,924	16,076	2,299	79,746	2,658	7,554	33,482	123,440
April	67,861	1,416	24,675	3,489	97,441	1,985	5,546	34,741	139,713
May	61,321	1,390	30,168	3,059	95,938	2,444	6,614	17,388	122,384

Coal—Bituminous and Lignite

(Thousands of tons mined. From U. S. Bureau of Mines)

	MONTANA	WYOMING	COLORADO	NEW MEXICO	UTAH	WASH.	OTHER WEST. STS.	ALASKA	TOTAL WESTERN
1945	1945	1945	1945	1945	1945	1945	1945	1945	1945
January	330	176	696	25	568	20	112	5	532
February	356	233	792	362	520	243	118	65	543
March	366	300	787	444	522	382	118	121	540
April									
May									
June									

*Figures not available.

Copper

(Short tons. From U. S. Bureau of Mines)

	ARIZONA	UTAH	MONTANA	NEW MEXICO	NEVADA	TOTAL 11 WEST'N STATES
1945	1945	1945	1945	1945	1945	1945
January	25,371	25,300	19,692	11,000	9,003	6,050
February	23,619	24,300	18,269	500	8,090	5,400
March	26,239	22,300	19,548	650	8,929	5,500
April	25,425	16,400	19,807	500	7,540	1,700
May	26,000	16,350	20,900	500	8,613	4,800
June	24,110	15,800	19,771	400	8,218	4,700
July	22,055	25,700	19,826	12,350	6,651	4,750
August						
September						
October						
November						
December						

*Included in total.
†Preliminary figures.

Iron and Steel

Fig iron and steel production for the Western area of the United States are reported by the American Iron and Steel Institute in net tons as follows:

Fig Iron:	Current Month	Percent of capacity	Year to date	Percent of capacity
November	86,986	37.3	1,321,980	58.6
December	120,498	30.1	1,642,478	57.9
Jan., 1946	83,979	34.9	83,979	34.9
February	40,363	18.6	124,342	27.1
March	107,605	44.7	231,947	33.2
April	85,270	35.7	315,217	33.8
May	84,799	35.2	400,016	34.1
June	104,808	44.9	509,179	36.2

Alloy Steel*:	Current Month	Percent of capacity	Year to date	Percent of capacity
August 1945	1,531	—	29,645	—
September	4,517	—	34,162	—
October	5,966	—	40,128	—
November	9,078	—	49,206	—
December	4,398	—	52,348	—
Jan., 1946	4,463	—	4,463	—
February	4,909	—	9,372	—
March	6,026	—	15,398	—
April	2,894	—	18,292	—
May	2,548	—	20,840	—
June	1,992	—	22,832	—

Month Total:	Current Month	Percent of capacity	Year to date	Percent of capacity
August	267,468	64.1	2,600,999	79.5
September	235,175	58.3	2,836,174	77.2
October	223,796	53.6	3,059,970	74.8
November	210,866	52.2	3,270,836	72.7
December	218,569	52.5	3,489,405	71.0
Jan., 1946	172,348	41.4	172,348	41.4
February	81,680	21.8	254,028	32.1
March	248,615	59.8	502,643	41.6
April	241,054	59.9	745,697	46.2
May	237,759	57.2	981,456	48.4
June	248,378	61.7	1,229,834	50.6

* Included in total steel.

*Included in total steel.

Freight—Western Traffic

Cars of revenue freight, railroad carriers in 11 Western states.

(Compiled from Am. Assn. of R.R. weekly reports)

	Loadings	Eastern connections	Total
Aug., 1945	695,277	450,497	1,145,774
September	595,145	310,868	906,011
October	617,023	313,964	930,987
November	535,620	278,746	814,366
December	586,302	302,807	887,009
Jan., 1946	469,139	240,906	710,045
February	467,054	243,725	710,778
March	594,106	311,419	905,525
April	438,318	236,816	675,134
May	401,529	216,217	617,746
June	577,666	307,451	885,117
July	480,558	239,721	720,279
August	746,210	379,792	1,126,002

Oil—On the Coast

Total daily petroleum product deliveries rose and total daily supplies fell in the Pacific Coast territory for July, according to the Petroleum Economics Division, U. S. Bureau of Mines.

Total average amount delivered daily by oil companies in the area, including all deliveries to the federal government, offshore shipments and transportation and other losses, was:

	1944	1945
May	900,000	1,135,000
June	969,000	1,085,000
July	884,000	1,011,000
August	883,000	1,010,000
September	902,000	954,000
October	945,000	897,000
November	992,000	901,000
December	1,093,969	969,000

All Products (1000's Bbls.)

	1945	1946
January	1,066,000	917,000
February	1,124,000	947,000
March	1,068,000	962,000
April	1,148,000	831,000
May	1,135,000	864,000
June	1,085,000	871,000
July	1,066,000	859,000

Soft Plywood

Source: U. S. Bureau of Census

Production, thous. of sq. ft. 3/8" basis.

	1945	1946
June	121,283	121,412
July	85,579	95,895

Pulpwood—Pacific Northwest

(Cords of 128 cu. ft., roughwood basis.)

Source: Bureau of Census

	Receipts	Consumption
May, 1946	345,049	229,533
June	426,000	243,703

Cement—In Barrels

Cement production throughout the West continued to rise during June in accordance with seasonal trends, according to figures supplied by the U. S. Bureau of Mines.

PRODUCTION
(In thousands of barrels)

	California	Oregon	Wash.	Utah	Idaho
1944	1944	1944	1944	1944	1944
June	1,180	1,439	511	303	249
July	1,312	1,338	454	278	237
Aug.	1,129	1,491	446	245	291
Sept.	1,360	1,364	378	305	280
Oct.	1,439	1,431	319	346	299
Nov.	1,182	1,211	298	299	280
Dec.	1,193	1,174	328	286	249

1945 1946 1945 1946 1945 1946

Jan. 1,258 1,159 269 234 173 233

Feb. 1,191 1,355 243 250 298 122

Mar. 1,226 1,629 250 298 122 245

April 1,257 1,670 268 432 130 356

May 1,396 1,745 238 397 273 413

June 1,439 1,684 303 437 305 386

THE TREND

August carloadings of freight originating in the eleven Western states, totaling 746,210 cars, topped everything since the wartime peak of 960,556 cars in July 1945, and were actually above August 1945. Freight from eastern connecting railroads was higher than at any time since August 1945. Much of this tonnage is agricultural, but it is reasonable assumption that it will be reflected back into industry through the necessity of manufacturing equipment of various kinds to serve such farm production. Industry generally is reflecting a firmer tone as far as output is concerned.

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wall threads.*



THE WEST ON ITS WAY

ARIZONA

GLOBE ASBESTOS PLANT BEGINS OPERATIONS—Gila County asbestos ore will be processed in the Globe Asbestos Company plant at the edge of Globe. The plant built as a war enterprise three years ago but never operated, is being enlarged and completely overhauled under direction of Manager L. M. Beam. Two hammer mills that weigh 11 tons each are replacing the old crusher, new rolls, screens and other equipment are being installed. A drier will make possible the processing of old dump ore which has absorbed moisture. Concern is a subsidiary of the Rheem Manufacturing Co. It will treat ore from the company's own Fiber King mine, on the Gila River 50 miles out of Globe.

NEW MOVING PICTURE FIRM—The Arizona Moving Picture Corp. expects to be in production by October 1, and ready for nationwide distribution by November 15. Production plans for the firm call for the filming of pictures for schools, churches, clubs, and other outlets in the non-theatrical trade. Officers of the company are: O. D. Miller, Phoenix, pres.; D. J. Foley, Phoenix, v.p. and gen. mgr.; Frank G. Griffin, Calif., v.p. in charge of production; William C. Thompson, Calif., v.p. in charge of tech. engineering; Alfred Knight, Phoenix, v.p.; James A. Smith, Phoenix, sec.; and George M. Beale, Phoenix, treas. Company has started negotiations for the lease-rental of old Sun Valley Studios in the Camelback area.

INGRAHAM MANUFACTURING CO. EXPANDING—Plans for an expansion program of the Ingraham Manufacturing Co. which will double its floor space and ultimately permit tripling of its production are complete. Company formerly known as Ingraham Mattress and Manufacturing Co., and located at Seventh and Grant Streets, Phoenix, was recently incorporated under the new name for \$500,000. It has been under its present management for 10 years. Company uses Arizona cotton and linters in production of mattresses, chairs, and divans.

CO-OP BUYS POWER CO.—White Mountain Electric Co-Operative, Inc. has purchased Lakeside Light & Power Co. at Lakeside. Sale was approved by the Arizona Corporation Commission.

CLOTHING STORE—J. C. Penney will construct a \$53,000 store to replace one destroyed by fire at Nogales.

FOOD PROCESSING—Walter Holm, Nogales, is to spend estimated \$72,383 in construction of food processing and canning plant; and Arizona Products Cannery will construct another for \$45,000 at 25th Avenue and Southern Pacific railroad tracks.

CALIFORNIA

EXPANSIONS IN LOS ANGELES—Carnation Co., Milk and Ice Cream Division, executive offices at 5225 Wilshire Blvd., has purchased 16 acres on West Jefferson Blvd., at the edge of Culver City, on which a \$2,000,000 plant will be erected; . . . West Coast Luggage Co., 914 S. Flower St., will construct a plant to contain 150,000 sq. ft. at 136 San Fernando Rd. Company makes leather and airplane luggage; . . . Mission Appliance Corp., 7101 McKinley Ave., will build a plant on property adjoining Northrop Aircraft, at the corner of Crenshaw and El Segundo Blvd., Hawthorne. Factory alone will contain 120,000 sq. ft. for production of automatic storage waterheaters. Estimated cost is \$570,000. Occupancy is expected in six months; . . . Pacific Airmotive Corp., 2940 No. Hollywood Way, Burbank, will consolidate its manufacturing, warehouse and service facilities in 112,000 sq. ft. of floor area at this address. Cost of building is estimated at \$750,000. Company makes propeller governor test stands, honing and lapping machines, propeller service tools, battery carts, model airplane engines, etc.; . . . Pioneer Division, The Flintkote Co., 5500 S. Alameda St., is adding a building of 104,000 sq. ft. for manufacture of folding paper boxes. Company also makes roofing, insulation board, building paper, corrugated and fibre containers; . . . Union Iron & Steel Co., 1600 N. Indiana St., steel fabricator, has begun construction of a plant, on 16½ acres at 7301 Anaheim-Telegraph Rd., which will contain about 102,500 sq. ft.; . . . Electrical Products Co., 1128 Venice Blvd., has acquired 5½ acres at 1120 N. Main St., on which will be constructed a 72,000 sq. ft. plant. Company will move to new location about January 1st, for increased production of various types of electric signs; . . . National Automotive Fibres, Inc., 6001 E. Randolph St., will erect a 65,000 sq. ft. addition to cost in the neighborhood of \$286,000. Company makes insulation and upholstery felt, sisal pads, etc.; . . . California Preserving Co., 3711 Medford St., has acquired a 3-acre tract near present plant and will erect a \$250,000 building for increased manufacture of jams, jellies, marmalades, apple butter, and mincemeat.

MILK COMPANY TO TAKE OVER—Arden Farms Company, 1900 W. Slauson, Los Angeles, plans remodeling and installing of machinery at the former Libby plant at Patterson, at a cost of \$125,000.

FACTORY BUILDING—Mission Appliance Company, Crenshaw and Santa Barbara Boulevards, Los Angeles, plans construction of a one-story steel frame factory building (150 x 180 ft.) at the above address.

FURNITURE ASSEMBLY PLANT—Work will start soon on the furniture assembly plant of International Furniture Co., 666 Lakeshore Drive, Chicago, Ill., to be erected on the Imperial Highway southwest of Eureka Avenue, Yorba Linda. Building will be of steel frame and reinforced brick, 180 x 420 ft. and contain 72,000 sq. ft. floor space.

FACTORY EXPANSION—Red S. Reynauld Co., Inc., 1014 W. Eighth Place, Los Angeles, plans expansion of facilities including frame and stucco office building, prefabricated steel frame and corrugated iron warehouse and factory buildings, providing a total of 45,000 sq. ft. of floor space.

FOUNDRY BUILDING—The contract has been awarded for construction of a rigid steel frame foundry building (180 x 150), warehouse and office building to cost \$300,000, for Parr-Richmond Terminal Corp., Richmond.

SIERRA COUNTY GOLD MINING ACTIVE—Gold mining operations are increasing in the Alleghany, Pike City, Sierra City, and other historic Sierra County districts. The Sixteen-to-One Mine, Inc., Alleghany, is expanding production. Associated Metals is preparing to reopen its Oro property near Downieville and work is progressing at the Hartmann and Alaska Mines in the Pike City region. At the Hartmann mine, driving of a 600-foot crosscut tunnel is being completed.

MANUFACTURING CIGARETTE LIGHTERS—F. Nigra Company, 509 Minna Street, San Francisco, is manufacturing cigarette lighters. Company will eventually add new lines and employ 25 persons.

LEATHER GOODS COMPANY CHOOSES L. A.—Planning a \$200,000 investment in land and buildings, S. K. Smith Co. of Chicago has purchased a site for a two-story, 60,000 sq. ft. art leather goods factory at 4400 Sunset Blvd., Los Angeles. It will employ 200.

WOODWORKING PLANT—New building of frame and stucco, concrete ground floors, yard facilities, has been constructed at cost of \$90,000 for J. di Cristina & Son, in San Francisco. Firm specializes in chair building.

WILDCAT GAS WELL STRIKE—Standard Oil's Community No. 1 well, near Fairfield, Solano county, confirms a wildcat natural gas strike near the Rio Vista region. Flow rate reaches 4,870,000 cu. ft. daily.

NEW INDUSTRIES IN LOS ANGELES AREA INCLUDE:—R. W. Reno Engineering Co., 20801 S. Figueroa St., Torrance, has opened a steel fabricating plant to make steel truss joists, roof purlins, and light structural steel framing; . . . Newton Iron Works, Wiggins Rd., El Monte, will construct an iron foundry to cost \$150,000; . . . Irvington Vamish & Insular Co., Irvington, N. J., has purchased property at 1500 Arden Ave., El Monte, and will construct a \$85,000 plant for manufacture of coated and treated paper for bottle cap and closure liners; . . . Circle Metal Co., 4300 E. Pacific Way, has started manufacture of metal wheels for small wagons, scooters, etc. Total investment will be around \$125,000; . . . Insulated Siding Co., 8349 Stellar Dr., Culver City, is constructing a plant for production of new siding formed of Hawaiian cane board and a product known as "Brixite." Plant will contain 30,000 sq. ft. and will represent an investment of \$200,000; . . . Tactor Mfg. Co., 10118 Adella St. South Gate, has begun manufacture of garden tractors; . . . Sterling Electronic Co., 166 N. Sierra Bonita Ave., Pasadena, is making electronic voltmeters; . . . Moldave of California, 5210 San Fernando Rd., Glendale, has started production of women's casuals and sport shoes; . . . Plast-O-Luggage, Inc., 12322 Long Beach Blvd., Lynwood, is making plastic and other types of luggage; . . . Orgo Products Co., 3062 W. Pico Blvd., will shortly be manufacturing an amino acid preparation. Company also re-packages vitamins; . . . California Ribbon Tape Mfg. Co., 4619 Alger St., has begun production of ribbon tape for gift wrapping; . . . Linsk of California, Inc., 1826 S. Broadway, is making juniors' and children's cotton dresses, as a subsidiary of H. Linsk & Company, Philadelphia; . . . Sanderson Hosiery Mills, 11711 Olympic Blvd., West Los Angeles, will construct a 5,500 sq. ft. building at above address for manufacture of women's full fashioned hosiery. Company plans to be in operation about the first of the year; . . . Ace Intra-Loc Corp., 6865 Farndale Ave., North Hollywood, will soon be manufacturing cement blocks; . . . Wm. Meeker Co., 328 S. Palm Ave., Alhambra, is erecting a plant for manufacture of die castings; . . . Westmetal Products Co., 4064 Avalon Blvd., has begun manufacture of aluminum specialty items such as cocktail shakers, ice bowls, tongs, goblets, etc.; . . . Nupac Pipe Cleaner Co., 11908 Ventura Blvd., North Hollywood, is making pipe cleaners under the trade name of "Handi-Kleen;" . . . C. H. C. Corp., 12300 Montague St., Pacoima, is making plastic buttons of the snap-button type; . . . Screwdriverkey Co., 6057 Beck Ave., North Hollywood, is producing a novelty hardware item in the form of a small screwdriver that fits onto a key ring.

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THE WEST ON ITS WAY

OTHER L.A. EXPANSIONS:—Royal Paper Box Co., 1136 S. Los Angeles St., is constructing a 48,000 sq. ft. building at the southeast corner of Pico Blvd., and Soto St., which will be ready for occupancy by next January. Company makes folding paper boxes; . . . West Coast Paperboard Mills, 6209 Crenshaw Blvd., has under construction at 6027 Eastern Ave., Maywood, a 42,000 sq. ft. plant for increased production of paperboard; . . . Cragin Mfrs., 4615 Alger St., is building a 35,000 sq. ft. addition for manufacture of dies, tools, jigs, fixtures, and special machines; . . . Filtrol Corp., headquarters at 534 S. Spring St., is building an addition to its plant, 3250 E. Washington Blvd., at an estimated cost of \$77,800. Activated clays and absorbent filtering material are produced; . . . Maler Bros. Uniform Cap Mfg. Co., 1119 S. Los Angeles St., will construct a 4-story building next door to present location, to contain 35,000 sq. ft. One floor will be occupied by owner for increased production of caps, and the other floors have already been leased to textile firms; . . . Academy Sportswear Co., 2708 Maple Ave., is constructing a 28,000 sq. ft. building at 2801 S. Main St., for manufacture of women's tailored shirts; . . . Consolidated Steel Corp., 5700 S. Eastern Ave., is adding a 22,500 sq. ft. machine shop; . . . C. W. Ritter Co., 2922 S. Main St., has under way a 20,000 sq. ft. addition for production of greeting cards, envelopes, paper boxes, etc.; . . . Mac's Super Gloss Co., 4101 N. Figueroa St., is moving to 6040 N. Figueroa and constructing a building in the rear to utilize a total of 20,000 sq. ft. for production of automobile polish; . . . Benjamin C. Betner Co. of California, 4949 Everett Ave., is erecting an addition of 19,000 sq. ft. for expanded manufacture of protective packaging of glassine, dry wax, etc.; . . . Finechrome Furniture Co., 416 Jackson St., has tripled its production space by moving to this address, where 17,000 sq. ft. are utilized for manufacture of home, office, and beauty salon chrome furniture; . . . Taylor Stair Co., 1305 W. 132nd St., has moved into its newly-constructed building at the above address where 12,000 sq. ft. are utilized for stair work and manufacture of store and office fixtures; . . . Arcturus Mfg. Corp., 4301 Lincoln Blvd., Venice, has completed a ceramics plant containing about 10,000 sq. ft. which will co-ordinate the machine division producing flush valves, the forging division, and new ceramics plant in the manufacture of the "3-C" toilet combination.

MORE L. A. EXPANSIONS:—Hydro Form, 5713 S. Holmes Ave., has moved to this location where 10,000 sq. ft. are available for manufacture of portable aluminum baby cribs within aluminum suitcases, as well as various types of hydro-forming. Considerable new equipment is being installed; . . . Ace Leather Goods Co., 767 E. Washington Blvd., has acquired 10,000 sq. ft. of floor space at above address where traveling bags and suit cases will be manufactured; . . . Mudrick Machine Works, 3678 S. Main St., is constructing a new plant at 3880 S. Main St. Building will contain 9,600 sq. ft. and will be pre-fabricated of steel and put together by concrete casting on the job. Textile machinery is made, as well as a new machine to process coconut husks into fibre for the furniture trade; . . . Mission Hosiery Mills, 3764 Broadway Pl., is constructing an 8,000 sq. ft. addition for increased production of women's hosiery; . . . Rapid Blue Print Co., 818 Santee St., is adding 7,000 sq. ft. to production facilities; . . . Columbia Trailer Co., 4300 San Fernando Rd., Glendale, is completing a 6,400 sq. ft. addition for expanded production of coach trailers; . . . Weld-Bilt Furniture Mfg. Co., 310 Boyd St., manufacturer of upholstered living-room furniture, has added 5,500 sq. ft. to production space by moving to above address; . . . Acme Mfg. Co., 9308 Croesus Ave., has purchased 14 acres on Haskell Ave., Van Nuys, on which is being erected a 5,000 sq. ft. building to be used in addition to the Croesus Ave. plant for the next year or so when other buildings will be erected in Van Nuys for company's entire manufacturing operation. Coffee and end tables are made, as well as lamps; . . . Triangle Candy Co., 1309 S. Santa Fe Ave., has added 5,000 sq. ft. to manufacturing area. Company makes hard candy and will shortly be making boxed chocolates; . . . Workrite Products Co., 808 W. Doran St., Glendale, formerly manufacturer of toys, is making electric switches in its new building of 5,000 sq. ft., through purchase of the Metrik Co., of Pasadena; . . . F & W Foundry, 1835 E. 62nd St., has added to its floor area and has installed considerable new equipment for increased production of aluminum, brass, and bronze castings; . . . Powers Mfg. Co., 5538 Alhambra Ave., has moved to its new building at this address for production of staples and stapling machines for the furniture trade.

SOUTHERN CALIFORNIA TELEPHONE EXPANSION:—Southern California Telephone Co., has begun construction of a new 10-story \$2,000,000 building at 434 S. Grand Ave., Los Angeles, to be used as one terminus of a transcontinental coaxial cable.

TRUCK MANUFACTURER BEGINS:—Chrysler Corp., Dodge Division, has begun production in the Los Angeles area of the Dodge "Power-Wagon." This is a 4-wheel drive, 1-ton general purpose truck.

NEW SAWMILLS TO BE BUILT:—The Trinity National Lumber Corp. is planning construction of a sawmill of 100,000 ft. daily capacity at Fort Seward. Wilbur J. Kelsey will manage the mill which will saw for the main fir. C. B. Lyons is completing a sawmill three miles north of Ukiah, Calif., on the Williams Highway, to cut 50,000 ft. a day.

TALON, INC. EXPANDS—E. J. Towle Co. of San Francisco has been purchased by Talon, Inc. The concern has been western distributor for Talon, Inc. Expansion of West Coast business of the concern is due mainly to rapid development of the sportswear industry. E. J. Towle has been named a vice-president of the parent company.

RYAN BEGINS MANUFACTURE OF CASKET SHELLS—Durable alloy metal casket shells are being manufactured in quantity by Ryan Aeronautical Company's stainless steel division, San Diego. The plant is now being tooled up for volume production, and precision steel dies are being machined in Ryan's tooling department. The new product will supplement and support airplane development and production work by providing fuller utilization of the company's war-expanded manufacturing facilities. The Ryan concern is adding some 100 new workers monthly and plans employment of 2,000 by late fall.

IN THE OFFING — Is a \$2,000,000 fresh milk plant at Culver City, plans for which are being drawn for Carnation Milk Co. Building will be of steel frame and masonry construction, including a processing plant, garage building, office building, store building and cafeteria building.

JELLIES, JAMS AND PRESERVES—Kopper Kettle Preserving Co., Los Angeles, has nearly completed its \$100,000 expenditure for expanding operations at 230 West 116th Street, Los Angeles, to expand manufacture of its jellies, jams, marmalades and preserves. J. D. Armstrong heads firm.

THE HUNT OCTOPUS—Hunt Foods, Inc., has purchased the physical assets of Drew Canning Co. at Campbell, near San Jose. More than 90% of Drew products are canned fruits.

NEW OWNERS OF KEY SYSTEM PLAN MODERNIZATION—Jesse L. Haugh, new pres. of East Bay interurban transit lines, has announced a two-year modernization plan for the Key System, including replacements of all streetcars by buses. All tracks except those used by bridge trains will be removed. Company plans purchase of 600 new 45-passenger Diesel buses.

FACTORY ADDITION—Walter N. Boysen Company, Forty-second & Linden Streets, Oakland, has let the contract for construction of its \$50,000 addition to its paint factory.

COLD STORAGE PLANT—Stillwater Orchards Co., Courtland, has awarded the contract for its reinforced concrete cold storage plant, costing \$125,000.

NEW WAREHOUSING FIRM STARTS—West Coast Terminals, Inc., new San Francisco stevedoring and warehousing firm, has opened its second coastal unit in Portland, Ore. Refrigeration facilities there have a capacity of more than 300,000 boxes of fruit and 400,000 cubic feet of warehousing space with three ship berths. The location is the former Oceanic Docks.

West Coast Terminals was formed by a group of Pacific Coast shipping and stevedore executives with William J. Bush, formerly vice president of American President Lines, as president. The Southern California unit at Long Beach will be opened soon, followed by a fourth at Seattle.

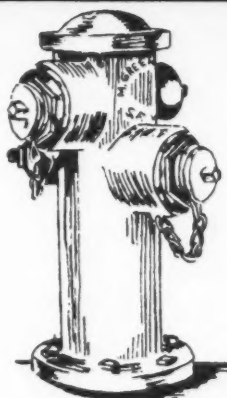
NORTH AMERICAN AVIATION GETS CONTRACT—North American Aviation, Inc., Los Angeles, has been awarded a production contract for a new jet plane, the B-45.

Company also expects a production contract for a new fighter plane for the U. S. Navy. Details were not revealed, but it was disclosed the B-45 will be the largest ship of North American design yet to be produced by the company. North American designed and produced the two-engine B-25 bomber during the war. It is presumed the B-45 is probably a four-engine bomber. Production on the new plane will not start for some time. Many months of production planning, ordering, and scheduling of material from suppliers, tooling, and training for several thousand new employees now under way will precede actual start of construction work on the B-45 series.

PLUMBING SUPPLY PLANT—American Radiator & Standard Sanitary Corp., Pittsburgh, Pa., has purchased a 5½-acre site in the North Richmond manufacturing district on property obtained from Parr-Richmond Terminal Corp., for location of its \$3,500,000 plumbing supply plant. It will employ 1000 workers. The new factory will make a complete line of plumbers' brass fixtures, thus helping alleviate the housing shortage and will be built across Critchett Ave. from the company's Richmond enameling works. Construction will start as soon as possible and production will start in 1947, announced Howard I. Detro, Richmond manager, who will manage the combined Richmond works. The building will have 200,000 sq. ft., part of it two and three stories high.

NAVY TAKES OVER DEL MONTE—The Navy Department has completed plans to purchase the Del Monte hotel site in Monterey for establishment of a post-graduate school costing an estimated \$28,700,000. Plans call for \$19,000,000 worth of new construction.

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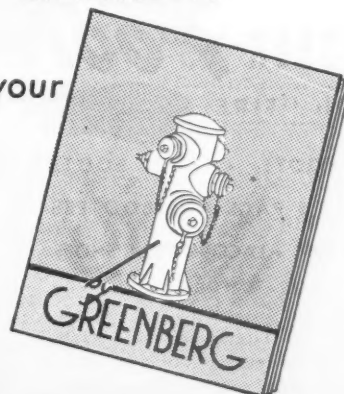
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THE WEST ON ITS WAY

CROWN CORK TO BUILD FACTORY—A factory and office building on Bayshore Boulevard, South San Francisco, at a cost of \$1,750,000 is planned by Crown Cork & Seal Co., 25th and Potrero Streets, San Francisco. Building will be 600 x 600 ft. Preliminary plans are now under way.

UNIVERSAL CONTAINER CORP. BUILDS NEW PLANT—CFA permission has been granted Universal Container Corp., South San Francisco, to build a new 16,000 sq. ft. manufacturing plant on Railroad Avenue.

FRUEHAUF TO BUILD NEW PLANT—Fruehauf Trailer Company, 5137 Boyle Street, Los Angeles, has acquired a site for a \$175,000 trailer plant on Davis Highway, west of Sacramento.

LEE COMPANY BUYS ELOESSER-HEYNEMANN CO.—H. D. Lee Company, national work clothing manufacturer, has completed purchase of The Eloesser Heynemann Co., pioneer California work cloth manufacturers. The Lee concern will continue operation of the Heynemann concern without major changes and will continue San Francisco branch factory operations as well. Company plans on the job training of workers.

TIDEWATER STARTS DISTILLATION UNIT—The contract has been awarded for the \$2,500,000 distillation unit of the Tide Water Associated Oil Company at Avon. Construction includes crude oil distillation unit, control building, stills, towers, tanks, piping, etc.

COLD STORAGE BUILDING—Storcold Co., 1300 Webster Street, Oakland, plans construction of two reinforced concrete cold storage buildings (98 x 260 ft.) costing \$325,000 at Grant and Reed Streets, Santa Clara.

ANCHOR-HOCKING PICKS SAN JOSE SITE—Maywood Glass Co., 230 California Street, San Francisco has purchased a site for a manufacturing plant in the Phelan Tract, San Jose, where it will construct a glass manufacturing plant. Concern is a subsidiary of Anchor-Hocking Co., Lancaster, Ohio.

WORK STARTED—The \$1,000,000 factory for Humboldt Plywood Corp., Board of Trade Bldg., Portland, at Arcata, California, just north of the Dolly Varden Lumber Company, has been started. Grading for foundations and a mill pond is under way.

SITE ACQUIRED—Blaw-Knox Corp., Pittsburgh, Pa., has acquired a 26-acre site north of Santa Clara for establishment of a \$1,000,000 factory for production of food processing machinery and earth-moving equipment.

FIBREBOARD PRODUCTS PLANS \$24,000,000 EXPANSION—Plans are now being prepared for a two machine board mill and converting plant for the San Joaquin Division of Fibreboard Products Co., two miles east of Antioch, while construction has already started on the glass manufacturing plant of Glass Containers, Inc., subsidiary of the concern, on a 20-acre site west of the present mill at L and First Streets in Antioch. Construction is part of a 3-year \$24,000,000 expansion program now under way in the Seattle-Portland, San Francisco Bay and Los Angeles areas.

NEW RYERSON STEEL SERVICE PLANT—Located in the central manufacturing district, southeast of Los Angeles and fronting on Bandini Boulevard, this unit, twelfth in the Ryerson nationwide system, covers an area of 200,000 square feet. It is of steel frame structure. Initial stock will be bars, plates, shapes, sheets, cold finished steel, etc., will be stocked at the plant. Company has installed most modern equipment for handling products. Erection of new factory recognizes importance of California as manufacturing and fabricating region, Everett D. Graff, company president said.

STEEL DISTRIBUTION CONCERN PICKS BERKELEY—A M. Castle Company will establish headquarters for distribution of steel throughout Metropolitan Oakland, Sacramento and San Joaquin Valleys and Nevada at its new \$600,000 plant at Fifth and Potter Streets, Berkeley. Company now operates a temporary warehouse at 4242 Hollis Street, Emeryville. Company supplies steel for structural and industrial use. Ray Chubb is manager of Emeryville plant.

LOCKHEED AND GENERAL PANEL EXPAND—Lockheed Aircraft Corp., Burbank, has purchased all RFC-owned land, buildings, machinery and equipment in vicinity of Lockheed Air Terminal under terms of agreement with W.A.A. In partial payment Lockheed will deed to government its Factory B-1, located a mile from the main plant at Lockheed Air Terminal. This factory has been sold by W.A.A. to General Panel Corporation of California for manufacture of prefabricated houses, which plans production of 10,000 units annually, starting the first of the year. Carl B. Dahlberg is president of General Panel Corp.

BAY AREA EXPANSIONS INCLUDE: Plans of Wilbur & Son, with offices at 116 New Montgomery Street, San Francisco, to expand their factory to double capacity. This company manufactures life preservers, sleeping bags, camp cots, air mattresses, etc. . . Coast Pipe & Supply Company are increasing their facilities on Bay Shore Boulevard opposite Cortland Avenue, San Francisco, by the addition of a

47,000-square foot building. . . Interbay Lumber Company, Oakland, plan erection of a \$250,000 lumber mill on a four-acre site on the estuary near 23rd Avenue and Park Street bridge. . . Johns-Manville Products Corporation, Pittsburg, Calif., plan the construction of a new paper mill plant with capacity of 20,000 tons of asbestos and rag felt paper products adjacent to present factory. . . Tide Water Associated Oil Company, Avon, Contra Costa County, have been granted CPA permit to erect a \$125,000 building for expansion of their facilities. . . Sunshine Biscuits, Inc., Oakland, received CPA approval for construction of a \$500,000 110,000-square foot reinforced concrete and steel addition to bakery.

COLORADO

BUILDING LATH MANUFACTURE—The Robvon Corp. of Denver is perfecting building materials which will be available as soon as additional laboratory tests are completed. At least 100,000 sq. ft. of floor space will be needed in addition to the plant they now operate. Company makes building lath from a specially processed and chemically treated corrugated paper. Provides key and bond to plaster, stucco and other similar materials.

CONTINENTAL AIR LINES BUYS CONVAIR PLANES—Some 15 high speed, 40-passenger Convair 240 transports have been ordered by Continental Air Lines, Denver, from Consolidated Vultee Aircraft Corp., San Diego, for delivery commencing in April, 1947. Flight time between Denver and Kansas City will be cut to 2 hours and 10 minutes—a 33% reduction in time now required.

WESTCRAFT NOVELTY CO. NEW CONCERN—Westcraft Novelty Company will begin light manufacturing operations in a masonry building at 4400 Lipan Street, Denver.

IDEAL CEMENT PLANS NEW PLANT—Ideal Cement Co. has let the contract for its new crusher plant at the company's Portland, Colo., plant, near Florence. The company is making a survey at Portland with a view to revamping and modernizing the entire plant.

RANGELY POWER BUYS OUT COMPETITION—The Rangely Power & Light Co. has purchased all rights and power lands of the White River Electric Assn. in the Rangely area. White River is a REA affiliate. Rangely Power is controlled by officials of the Home Power & Light Co., of Greeley, Colo. Company plans expenditure of \$150,000 for new equipment and power lines to meet the fast expansion of the Rangely district, and construction on a \$300,000 power plant has already started.

CASINGHEAD PLANT FOR RANGELY—Stearns-Roger Manufacturing Co., Denver, is conducting a survey at Rangely for construction of a \$2,000,000 casinghead gasoline plant. The proposed plant would convert solution gas into casinghead gasoline which is a volatile fuel used for "anti-knock" purposes in commercial gas products. A casinghead plant would separate gas from the oils before they become dissipated. Charles O. Voigt, pres. of Stearns-Roger, did not reveal for whom his company was making the survey.

WESTERN OFFICE AT DENVER—The California Co., controlled by Standard Oil Co. of California, is expanding its Western division headquarters in Denver. Within the last year some 150 new employees have been added to the Denver office, including land men, operating men, geologists and engineers. The Denver division has jurisdiction over Colorado, Oklahoma, Kansas, Montana, Wyoming and Utah.

MONTANA

CARTER TO BUILD NEW BILLINGS REFINERY—Carter Oil Company, subsidiary of Standard Oil Company of New Jersey and parent corporation of the Powerline Company of Denver, plans construction next spring of an \$8,000,000 refinery at Billings, Mont. The new plant will include a catalytic cracking unit with a capacity of 18,000 barrels of crude oil daily. The refinery will be of the most modern design and will be capable of turning out 8,000 barrels of top motor fuel a day.

ARTIFICIAL ICE PLANT—An artificial ice-producing plant will be installed during October in buildings northeast of Kalispel by C. M. Brooks. The two machines in the plant will be capable of producing 8-10 tons of ice a day, using city water. His will be the only ammonia plant in the county.

NEW FIRM INCORPORATED—Articles of incorporation were filed at Helena by the Edelweiss Mining Co., capitalized at \$250,000, and incorporated by Eric G. Erickson, Roy E. Nicholls and Paul T. Keller, all of Helena.

FREEZE PLANT AT MILES CITY—Four rooms of the Wilson Fresh Frozen Foods plant, located on Milwaukee Road right of way in Miles City, will be in full operation within a few days. Five compressors with three already installed will provide the temperatures for the freezing rooms. In addition, there will be six storage rooms in which can be stored 16 carloads of frozen products.

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THE WEST ON ITS WAY

NEVADA

NEW SILICA SAND PLANT—Nevada Silica Sands, Inc., Overton, Nev., subsidiary of Fibreboard Products, Inc., has started work on its new silica sand washing and refining plant at Overton.

NEW MINING PLANT—Tonopah Belmont Consolidated Mines Co., Tonopah, has started excavation work for its new steel mill (600x200 ft.) with machine shop and office building and warehouse under one roof.

MILL BUILDING BEGUN—Nevada Scheelite Mining Co., 11320 Alameda, Los Angeles, has begun rebuilding its mill at Nevada Dead Horse Wells, Fallon, which was burned last June.

ANACONDA SAID TO HAVE NEW COPPER MINE—Victoria Mines, affiliate of International Smelting and Refining Co., Anaconda subsidiary, is said to be developing another large copper mining camp in Elko County, at the property located 18 miles south of Wendover. It is reported a camp to house 700 men is being erected at the mine.

MILLING PLANT—Work has started on the 500-ton milling plant, pipe line and pumping unit for George G. Austin, Reno, at Winnemucca, 30 miles northeast of Junco.

NEW MILL—Construction of a 10-stamp mill at the Bonanza King mine in Spring Valley, Pershing county, is reported under way by J. A. McDonald, manager of the mine. The stamps are already in, he reports. Ore bins are being erected and a Wilfley concentrating table and amalgamation plates are to be added to the equipment together with other machinery.

NEW MEXICO

PLANT FOOD—The lignaceous shales of the Gallup coal area having been found to contain 24 mineral elements of value in plant food, a 250-ton-a-day factory has been ordered, for installation in the Gallup area to reduce the shales to a marketable product. Production will be by the Phoenix Chemical Company, Phoenix, Arizona.

PEANUTS—With all of last year's peanut crop processed, the Portales Valley Peanut Mill, of Portales, N. M., has received a load of this year's first crop of peanuts. A new plant is under construction, and will house a peanut butter manufacturing plant, a nut salting and packing machine, and a roaster, in addition to previously operated hulling and crushing machines. Anticipated output is 30,000 lbs. of peanut butter a day.

PITCHSTONE PILOT PLANT IN WORK—A grinding plant has been installed to process pitchstone deposits at Lordsburg, New Mexico. Supported entirely by New Mexico people, this is one of the newest industrial developments in the southwestern part of the state. Pitchstone is a volcanic rock which is exfoliated to 7 to 23 times its natural size by blazing heat, and makes an aggregate for building blocks, which are very light. Owners plan later to make wallboard.

CHILI—Two chili dehydrating plants are planned at Deming and Las Cruces, New Mexico. Crop and market surveys are now being made by the New Mexico Development Foundation, of Albuquerque, at the request of the processors, leading to the making of chili powder. Increasing demand is in evidence in Eastern markets.

OREGON

JANTZEN BUILDING CONTRACT AWARDED—Construction of two-story concrete mill building for Jantzen Knitting Mills, 411 N.E. 10th Street, Portland, will begin shortly. Building will cost \$300,000, and is part of a big expansion program of the company.

NEW CANNERY FOR SALEM—Paulus Bros., 1675 Oxford Street, Salem, has started construction on its new \$561,300 cannery at the above address. Construction is of one-story reinforced concrete, 360x540 ft. in area.

WILLARD STORAGE BATTERY CHOOSES PORTLAND—The new branch plant of the Willard Storage Battery Co. will be built in Portland. Company has purchased some six acres from the Union Pacific Railroad at 35th and N.W. Yeon in the Guilds Lake area. New plant will represent an investment of \$500,000.

NEW FRUIT AND VEGETABLE CANNERY—Starr Fruit Products Co. will erect a new fruit and vegetable cannery at North Vancouver and Columbia Boulevard, Portland. Company has purchased 12.7 acres from the Union Pacific Railroad for the project. Buildings containing 126,000 sq. ft. of floor space, and costing about \$550,000 will be erected on the site. Plant will employ about 1500 when in full production.

EXCAVATION STARTS — Portland Cement Co., Oswego, Oregon, has begun excavation for alterations including concrete piers, concrete track pit for railway cars and structures costing \$870,000.

NEW PORTLAND AREA CONCERNS AND EXPANSIONS—Hawley Pulp & Paper Co., Oregon City, plans a \$215,000 chipping plant; Inland Motor Freight, N.W. 20th and Vaughan, plans an \$85,000 concrete freight depot; Pacific Garment Co., N.E. 9th and Davis, plans a one-story concrete 66x200 ft. bldg. with 34x100 ft. extension, costing \$75,000; Tarlow & Associates, 4344 N.E. Hancock, plans \$125,000 plant for manufacture and repair of furniture.

VENEER PEELER PLANT—Harbor Plywood Corp., Riddle, plans construction of a veneer peeler and sash and door plant, at a cost of \$500,000. E. W. Daniels is president of the concern.

MORE COKES—Cocoa Coca Bottling Co., 450 Summer Street, Salem, has purchased a site for its new bottling plant to cost \$250,000 at Yew Park Annex between 21st and 13th and Cross & Wilbur Streets.

TELEPHONE BUILDING—Plans have been completed for a telephone exchange building, one story, 42x98 ft., costing \$300,000, at Grants Pass, for the Pacific Telephone & Telegraph Co., 730 S.W. Oak Street, Portland, Ore.

TEXAS COMPANY TO ENLARGE FACILITIES—Texas Co. plans construction of two 80,000-barrel tanks and an unloading dock expected to cost \$100,000, at the Texaco plant, 3640 N.W. Street, Helens Road, Portland.

OPERATIONS TO BEGIN—The \$5,000,000 ethyl alcohol plant at Springfield, Ore., will start operation on a shake-down period in October. Plant originally financed by the government is now expected to be leased to lumbermen heading the Willamette Valley Wood Chemical Co. Clark Van Fleet, of that organization, will manage the plant. Alcohol and by-products will be manufactured from chemically treated hogged fuel and other wood waste.

TWO TIMBER COMPANIES PURCHASED—Douglas Timber Corp. has purchased the Lewis-Baldrige Lumber Co. sawmill at Drain, Ore., and Gordon & Azarow, Los Angeles, have purchased the Minden Lumber Co., Silverton, Ore.

ATLEE-BURPEE PLANS OREGON PLANT—The W. Atlee-Burpee Seed Co. of Philadelphia plans a plant in the Willamette Valley, according to G. B. Swier, agent for the company. Such a plant will employ between 400 and 600 persons during the harvest season and from 75 to 100 throughout the year.

POPE & TALBOT PLANS SAWMILL—A sawmill at Oakridge, Ore., east of Eugene, is planned by Pope & Talbot Co. The mill will cut between 200,000-300,000 board ft. daily from a sustained yield unit of timber on the main fork of the Willamette River above the city. Mill will employ between 325-327 persons.

SWAN ISLAND SHIPYARD CONVERTED—Concrete mixing plants and hoisting towers are being manufactured at the plant where scores of tankers and other ships were turned out by Henry Kaiser during the war. Mixermobile Manufacturers, a Portland equipment firm owned by the Wagner brothers, at 6855 N.E. Halsey, are turning out 15-ton mobile concrete mixing and pouring plants. The new assembly line is operated under contract by Kaiser workers. Company also plans assembly of Wagner hoisting towers that are truck-mounted and distributed under trade name of "Towermobiles." The Swan Island machine shop is accepting contract jobs for machine work. Al Bauer is gen. mgr. of Kaiser interests in Portland area.

UTAH

BILLING OPERATIONS AT SALT LAKE—General Foods plans to establish its billing operations in the American Building, corner of Post Office place and Main Street, Salt Lake City. Some 30 persons will be employed by the company.

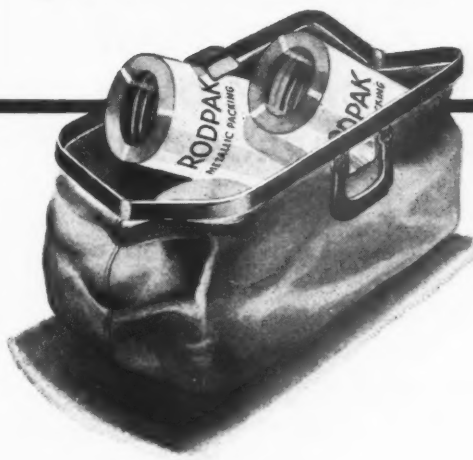
RUBBER FACTORY—The Thermoid Co. of Trenton, N. J., will build a \$1,000,000 rubber plant at Nephi. CPA approved, the contract has already been awarded. First cement has been poured. Company expects to begin operations in January, 1947. Building will cost \$450,000, rest of expenditure will be for machinery and equipment. Company purchased 35 acres of land for purpose. It is on main line of Union Pacific Railroad.

GREAT SALT DESERT PUT TO NEW USE — The Boeing Aircraft Co. and the Air Materiel Command of the Army Air Forces are using the Great Salt Desert as a proving ground for Boeing supersonic guided missiles. Boeing now has a 30-man staff at Wendover, doing actual testing. The company is doing the entire job of research, construction and test firing.

PRELIMINARY PLANS STARTED—Swift & Co., Stock Yards Station, Denver, plans construction of a processing plant costing \$275,000 in Salt Lake City. Exact site has not been selected.

October, 1946—WESTERN INDUSTRY

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THE WEST ON ITS WAY

PROVO FOUNDRY & MACHINE CO. MOVING—The Provo Foundry & Machine Co. is being moved and rebuilt on a tract of ground east of the Provo Golf Club. Company was formerly located at Fifth West and Center Streets, Provo. The new foundry building is now in operation, manufacturing cast iron parts for agriculture machinery made in the East. A new steel fabricating shop, 75x200 ft. and a steel warehouse building, 50x500 ft. are now under construction. Thomas F. Pierpont is owner of the concern.

OLD SALT LAKE & UTAH R.R. TRACKAGE PURCHASED—Bamberger Railroad Co. and Denver & Rio Grande Western R.R. Co. have purchased the major trackage of the abandoned Salt Lake & Utah Railroad Co. Julian Bamberger, pres. of the Bamberger concern, purchased principal trackage in Salt Lake for \$100,000; D. & R.G.W. purchased scattered segments of trackage in Salt Lake, West Jordan, Orem, Springville and Spanish Fork for \$102,253. Rio Grande plans using trackage for development of industrial sites.

TOOELE ORDNANCE PLANT TO BE RETAINED—Some \$300,000 additional construction is planned at Tooele Ordnance Plant which has become a permanent installation.

EITEL-McCULLOUGH TO RESUME OPERATIONS—W. W. Eitel has announced that his company anticipates exercising its option for purchase of the plant which they operated during the war at Salt Lake City. Beginning operations will be materially curtailed pending reconversion, but company plans to provide employment for many of the people trained by them during the war operation.

CEMENT PLANT—A new \$2,000,000 cement manufacturing plant will be constructed by the Union Portland Cement Co. at Devils Slide in Morgan County, Utah. Construction will begin immediately and new plant will be in operation for 1947 construction season. Twelve storage silos and a packing plant, started nearly a year ago and costing about \$450,000, are nearly completed.

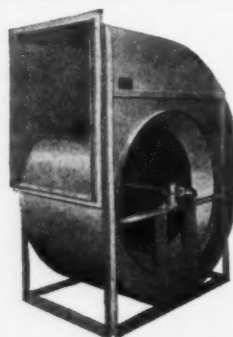
WASHINGTON

SEIDELHUBER STEEL GOING AHEAD ON PLANS—Plans are in progress for the \$3,500,000 steel sheet rolling mill of Seidelhuber Steel Rolling Mill Division of Seidelhuber Iron & Bronze Works which is expected to begin in 1947. Plant will be designed to produce a minimum of 50,000 tons of steel sheets and merchant bar annually.

SHIPYARD SOLD—Todd Shipyards Corp. is to buy a government shipyard from the War Assets Administration, says the latter. Yard to be sold is located at Seattle. Todd will give up its interest in another yard at Tacoma.

NEW CONCERN—Roberts Bottling Company, 3507 Fremont Place, Seattle, one of Seattle's newest business concerns, is looking to expansion at 53rd and 14th Blvd. as soon as priorities are received. Company plans expenditure of some \$75,000. The company bottles soft drinks. James W. Roberts, Jr., is vice pres. and supt., and Alfred R. Shaver, sec.-treas.

TURNABOUT—WASHINGTON FIRM BUYS ILLINOIS CONCERN—The Isaacson Iron Works of Seattle has bought the Sundstrand Machine Co. of Rockford, Ill., from the War Assets Adm. for \$360,000. It will employ from 400 to 600 persons in the Rockford plant.



Better Ventilation INCREASES PRODUCTION ALADDIN BLOWERS

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Our line includes the "BB" fans of the backward curved blade type and the "FC" fans of the forward curved blade type for general ventilation. The "EX" fans for exhaust-ing and conveying dust, fumes, shavings, etc. "RB" fans for general exhaust duty where there is danger of "blade loading" due to grease, etc. "HP" fans for small volumes at higher pressures.

Write Us About Your Ventilating Problems

ALADDIN HEATING CORPORATION
2222 SAN PABLO AVE. OAKLAND, CALIF.

CO-OP DAIRY—The Enumclaw Co-operative Creamery, Enumclaw, Washington, plans construction of one- and partial two-story reinforced concrete creamery building, costing \$200,000.

NORTHERN PACIFIC BUILDING STARTS — Construction of an office and warehouse building on the site of the old warehouse has begun by Northern Pacific Railroad Co., at Puyallup Avenue, Tacoma. Building will be two stories high and freight shed 55x257 ft. with concrete foundation, brick walls, concrete flooring, tar and gravel roof.

WHEELER OSGOOD MANAGEMENT OFFICIALS BUY COMPANY—Management officials of the Wheeler Osgood Company, Tacoma, world's largest manufacturer of doors, have purchased the company which was founded in 1889. N. O. Cruver, 29 years with Wheeler Osgood and formerly v.p. and gen. mgr., becomes president and treasurer; W. M. MacArthur, 20 years with company, becomes a vice-pres., as does Lionel J. Phillips; Paul M. Smith, 18 years an employee, becomes secretary and L. J. Woodson becomes pres. of Nicolai Door Sales Co., a wholly-owned subsidiary. More than 700 people are employed in the Tacoma plant.

CONTRACT AWARDED FOR CROWN-ZELLERBACH PLANT—The contract has been awarded and preliminary work is under way on the Crown-Zellerbach Corp. pulp and paper plant expansion which will cost \$11,000,000.

EXCAVATION STARTED — Preliminary excavation work for the \$500,000 Vancouver Coca Cola Bottling Company plant has begun.

NEW FIRM—Fibre Growers and Processors, Inc., has been incorporated for \$90,000 at Woodland, Wash. Plans call for immediate construction of a flax fibre processing plant. Joe Dunn is pres. and Wayne Bozarth, sec.-treas., of the new firm.

BELLINGHAM PAPER PRODUCTS FORMS — Bellingham Paper Products Co., a \$460,000 project, has been formed by the Puget Sound Pulp & Timber Co. to operate a mill situated on land leased from the parent concern to produce 45 tons daily of paperboard. At capacity operation the paperboard mill will consume 12% of the output of the pulp mill.

FROZEN SEAFOOD COCKTAILS—The Island Seafood Company of Everett is packing and shipping frozen crab, oyster and shrimp cocktails.

OLYMPIA VENEER TO SHIFT HEADQUARTERS — The Olympia Veneer Co. has sold its Olympia plant to the St. Paul & Tacoma Lumber Co. and will shift headquarters to Eugene. Corydon Wagner will be in charge of the operations. New name of the concern is Associated Plywood Mills, Inc.

WENATCHEE WELCH GRAPE JUICE SITE—The Welch Grape Juice Co. has purchased land in Wenatchee for the erection of a fruit-processing plant to cost \$750,000. Company will manufacture apple, peach and apricot juice and other products, as well as grape juice made from Concord grapes.

KIRSTEN PIPE CO. NOW IN NEW FACTORY—The new factory of the Kirsten Pipe Co., 1165 Eastlake Ave., is now complete. Approximately 75% of the wall area is in glass. In addition to the Kirsten pipe and holder products, the plant houses the Kirsten Marine division, and the Sol-E-Maud, another marine product.

BREWERY EXPANSION — Great Western Malting Company, W. 11th Street, Vancouver, plans brewery expansion of \$800,000 which will take place over a three-year period.

NORTHWEST'S LARGEST QUICK FREEZE PLANT—The Birds-Eye-Snider plant, largest quick freeze plant in the Pacific Northwest, at Walla Walla, is now in operation. Its straight line processing system delivers fresh peas from cut to freezer in less than 10 minutes. Capacity is 280 tons of peas daily. Company plans freezing of peaches, spinach and carrots later in the year.

NEW DEPARTMENT OF COMMERCE OFFICE IN SPOKANE—One of the 18 new district offices of the Department of Commerce will be located in Spokane. There will also be a new field office in Boise. Economic and technical information, and a counselling service to veterans and small business men will be offered.

RENTON PLANT TO SHARE IN CAR ORDER—The Pacific Fruit Express Co. recently placed orders for 500 new lightweight refrigeration cars with Pacific Car & Foundry Co., Renton, Wash. Delivery is scheduled to begin in 1947. Cars will weigh about 5,000 pounds less than the conventional type.

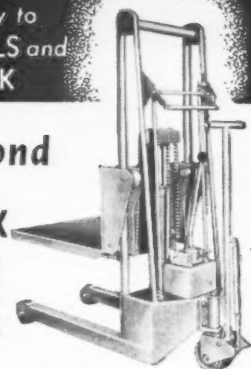
FULLER PAINTS EXPANDING—An expansion program is anticipated by W. P. Fuller & Co. to increase the company's merchandising capacity at Spokane and Missoula, Mont. A new warehouse, 100x130 ft., will be built at Ruby and DeSmet in Spokane.

WAR PLANT GOES INTO PEACE-TIME PRODUCTION — The Setson-Ross Machine Company of 3204 First Avenue South, Seattle, Wash., purchased the steering gear and ship pump manufacturing plant, which it operated during the war, from War Assets Corp., for \$105,600. The company manufactures wood working machinery. Present employment is 107 and it is estimated plant employment will be increased to 200.

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an **IMPROVED** way to
HANDLE MATERIALS and
POSITION WORK

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Modern welded tube and formed plate construction, designed for strength, rigidity and safety. Weighs only half as much as an ordinary tiering truck of comparable capacity.



1. LIFTS & TRANSPORTS

Will pick up a skid load as handily as the usual type of lift truck. Easily transports capacity loads and can be steered into any space accommodating its width.

2. SUPPORTS

An adjustable support for overhanging work on drill presses, shears, cut-off machines, punch presses, etc. Serves also as a feed table for many operations. Secure floor lock.

3. LEVELS

Exact leveling for changing dies in presses. Ideal for transporting heavy die sets, fixtures and tools to and from storage bins.

4. POSITIONS

Adaptable to positioning work in lathes, loading and unloading heavy work from other machine tools. Quicker and safer than with a helper and chain hoist.

5. LOADS & UNLOADS

One man can do the work of many in loading and unloading freight. Especially convenient where shipments are delivered to curb or where docks are not available. Hydraulic operation assures ease and safety.

6. TIERS

An easily maneuvered truck, adaptable to tiering. Among other uses it serves as an adjustable work table for machining, assembly and general toolroom work.

Deliveries from stock.
Write for Bulletin 136.

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**M. D. HUBBARD
SPRING COMPANY**



46 WESTERN AVENUE

PONTIAC 12, MICHIGAN

Power Booster to PRODUCTION

Rapid-Power Boosters are dependable power belt conveyors that can be wheeled into place and put to work at a moment's notice. Easily adjusted to the job to be done. Manufactured in three standard lengths of 10, 12 and 15 feet and in widths of 12 and 16 inches.

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Oregon Handling Equipment Co., Portland 9, Ore.
Murray Sales Co., Denver 4, Colo.
The Horsley Co., Ogden, Utah.



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LOS ANGELES (SAN PEDRO) ★ SAN FRANCISCO (ALAMEDA) ★ SAN DIEGO (CORONADO)

THE WEST ON ITS WAY

TO UNLOAD TUNA—A dock is being completed at Aberdeen for the Point Adams Packing Co. of Hammond, Ore., which it will use for unloading tuna.

CHEHALIS FIRMS PLAN EXPANSIONS—The Lewis-Pacific Dairy-men's Assn. and I. P. Callison & Sons Co., both of Chehalis, plan expenditure of \$325,000 at their Chehalis factories. Lewis-Pacific is completing negotiations for purchase of a milk condensing factory formerly owned by Borden's, Inc.

PORT OF TACOMA TO SPEND \$2,000,000—Port facilities will be improved to the tune of \$2,000,000 at the Port of Tacoma. Included are a grain elevator of 1,000,000 bushel capacity; two fruit and vegetable processing buildings for Kelly-Farquhar & Co., reconstruction of grain dock, new repair and gear shop, transit shed for Pier No. 1 to cost \$700,000, rebuild fishermen's dock, install 65 ton crane and numerous smaller upkeep jobs.

WYOMING

CASPER-DENVER GASOLINE PIPELINE PLAN—Construction of a finished products pipeline running from refineries at Casper, Wyo., to Denver, will be undertaken within the next month. The line probably will be an 8-inch line capable of carrying a heavy load of gasoline. Cost of the new pipe line will involve expenditure of \$12,000 a mile or more than \$3,600,000 for the line. Companies interested in the venture are Standard Oil Co. of Indiana, the Texas Co., and Socoy-Vacuum.

DOUGLAS REFINERY SOLD—Dick Bryson has purchased the Douglas refinery located southeast of the town, and will remodel it into a gasoline bulk plant and filling station. Old refinery buildings and equipment are being torn down.

ARMY WILL USE CASPER AIR BASE—Fourth Fighter groups will be stationed at the Casper Army base. The group will be equipped with P-51 Mustang fighter planes and it is expected the force will number between 2,000 and 5,000.

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WESTERN

TRADE WINDS

NEWS ABOUT THOSE WHO DISTRIBUTE AND
SELL INDUSTRIAL EQUIPMENT AND MATERIALS



Richard C. Kirsten

Richard C. Kirsten, industrial artist, has opened his new studio for free-lance art work, Kirsten Studio of Creative Art, at 900 North 102nd Street, Seattle 33, Wash. He served in the Navy as a specialist artist illustrating visual aids for Navy radio and radar training programs. He does catalog layout and illustration as well as modern packaging at his studio.

Engineering Service, Inc., has opened a Western office at 406 E. Colorado Avenue, Glendale, Calif. The office is equipped to offer a complete engineering service.

George C. Lentz, formerly with General Electric Co., has been appointed sales engineer for gas turbine engines at Menasco Manufacturing Co., Burbank. He will have charge of customer liaison on gas turbine and other jet projects.



E. B. Bomar

E. B. Bomar is now in charge of the Phoenix office of Ilg Electric Ventilating Company. He was a sales engineer in that area for several years after attending Oklahoma University and Texas College of Mines.

L. A. Blackburn has resigned his post as Mid-West Division manager for the Fostoria Pressed Steel Corp., Fostoria, Ohio, to become Southern Division manager for Manufacturers Marketing Service with headquarters in Los Angeles, effective Oct. 1. Before going to Fostoria, Blackburn was associated with the Westinghouse Supply Company organization on the West Coast.

Gus H. Jensen, restaurant consultant, 1269 Seventh Avenue, San Francisco 22, has established a new Industrial Restaurant Supervision service for plant-managed employee cafeterias on the West Coast. The service is designed to assist plant managers in obtaining better food and service without increasing the operating costs, particularly food and labor. Surveys and recommendations are made on request without obligation.



• Ray M. Ronald (left) named Western sales manager of Hyster Co., Portland, and V. G. Lindenberg (right) industrial lift truck manager of the Seattle office.

M. D. Hill has established offices at 1801 Jefferson Street, Oakland 12, Calif., as director of Western Implement Merchandisers, and will serve as sales representative in the Western States for independent implement manufacturers. He was formerly director of Pacific Coast operations for Harry Ferguson, Inc., Oakland.

Edward C. Beasley, formerly with General Electric Supply Corp., will direct sales and promotion in the Southwest for Koiled Kord division of Kellogg Switchboard & Supply Co. His territory will include New Mexico and Colorado as well as some Southern states. The distributor firm of Fowler and Jewell, Los Angeles, has been appointed Pacific Coast representatives for the company, and Walter M. Fowler, Ward E. Jewell and William L. Summer of the firm will direct a seven-state merchandising program for the Koiled Kord division.

Clive H. Dawson has been appointed sales manager for Service Caster & Truck Corp. in Southern California and Arizona, by Stanley E. Morris Co., exclusive representatives for Service material handling equipment in the territory. He comes from Spencer & Morris, Inc., where he was sales engineer for the Tramrail system, Robbins conveyors, and other lines.



Clive H. Dawson

Oregon Industrial Factors has been appointed agent and jobber for the complete line of Speedways material handling equipment in Oregon, by Packaging Sales Company, Seattle, Speedways Conveyors distributor in the Pacific Northwest. Russell Nelson and Robert Higgins, materials handling engineers, will handle the account.

Immersion Heating Equipment Co. of San Francisco is a new firm specializing in direct gas firing by immersion heaters in tanks, for liquids of all kinds and for metals up to 1,000° F. Company also handles industrial gas burners made by the Bryant Heater Co. Offices are at 132 Ross Valley Drive, San Rafael.

Garlinghouse Brothers are separating their distributor and manufacturing activities. The parent firm, Garlinghouse Brothers, of which L. H. Garlinghouse Sr. is gen. mgr.; A. F. Garlinghouse, gen. sales mgr.; and C. H. Jeffries, comptroller; will direct activities of its three subsidiaries: Garlinghouse Brothers, Distributors; Gar-Bro Manufacturing Co., manufacturer of concrete placing and industrial equipment; and Gar-Bro Wheel Co., manufacturer of pressed steel wheels and cushion tires.



• Clark E. Jackson (left) and Michael Donovan (right) have joined the Technical Service staff of Turco Products, Inc., Los Angeles. Jackson's duties include technical research while Donovan is assigned to the solution of maintenance problems in industrial fields.

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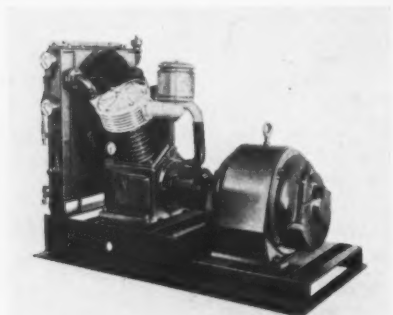
Oakland

THE SHOWCASE

456

Pressure Lubrication Easier Now—The task of loading hand guns has been resolved into a simple, clean, quick operation by new equipment just announced. Method eliminates disassembly of the hand gun, precludes danger of lubricant contamination or waste, eliminates annoyance of air pockets in the gun and permits gun loading in a few seconds according to Alemite engineers. *Alemite Division, Stewart-Warner Corp., Chicago, Ill.*

457



• Available in five sizes these new industrial "departmental" compressors are claimed to have these as some of their advantages: less power required for pushing air to job; lower installation cost; use only as needed, no shutdowns because of central compressor failing. *Davey Compressor Company, Kent, Ohio.*

458

Ground Taps Speed Crankshaft Threading—Special steel crankshaft forgings are more easily threaded with specially designed ground taps which distribute the cutting load over a $3\frac{1}{2}$ thread chamfer on each side of six straight flutes. Fewer threading rejects. *Detroit Tap & Tool Co., Detroit 11, Mich.*

459



• The Krane Kar, mobile crane on the job at Drake Steel in Los Angeles, has front-wheel drive, power swing boom, and stability without stabilizing devices. Automatic braking of load and boom lines. Silent Hoist Winch & Crane Co., Brooklyn, New York.

460

Hydraulic Jack—New, compact $7\frac{1}{2}$ -ton hydraulic jack provides lifting range of from 21 inches to 35 in. under a $7\frac{1}{2}$ -ton load. A lifting step attached to jack ram lowers lifting range from minimum of $7\frac{1}{2}$ in. to maximum of 21 in. under 5-ton load. Jack caps available to meet individual requirements. *Airquip Company, Dept. KC, Burbank, Calif.*

461

To Find Moisture in Gas—New dewpoint recorder determines amount of humidity in gases. The G-E instrument is combination heater, refrigerator, mirror, gas chamber and photoelectric eye. *General Electric Co., San Francisco, Cal.*

462

Master Valves For Gravity—Automatic control through a master valve, regulates rate of flow of water, prevents waste in backwashing or rinsing and maintains the zeolite or sand bed in clean, active condition. Those are claims of the Permutit Company in its new booklet. *The Permutit Company, New York 18, N. Y.*

463

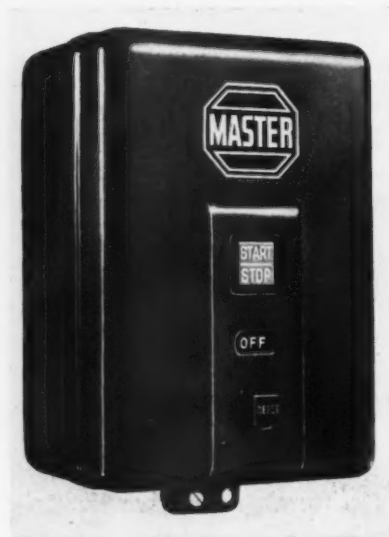


• A motorized hand truck, battery-powered, does the work of fork-lift or high-lift trucks where weight, size, speed or cost make larger units impractical. *Automatic Transportation Co., Chicago 20, Illinois.*

464

Small Heat-Treating Furnaces—Utilizing temperatures up to 1850 degrees F., a new furnace known as the Pereco Model 220-W is being manufactured for either production or laboratory work. Operates on 115 volts and draws 1500 watts. *Pereco Equipment Co., Columbus, Ohio.*

465



• Master single-button control is featured by this magnetic starter for motors. The same button both starts and stops the motor. Additional data in Master Bulletin No. 200. *The Master Electric Co., Dayton 2, O.*

466



• Forged aluminum tool, pipe wrench (above) and "C" clamp (at lower left) offer strength almost

double Federal specification requirements for same tool of steel, with a weight one-third of steel. Clamp can be supplied with high strength bronze screw for use as a safety tool where non-sparking essential. Jaw of pipe wrench inserted in both body and hook permits use of harder teeth than in normal wrenches. Also spark-proof. *H. M. Shick Products Co., San Francisco.*

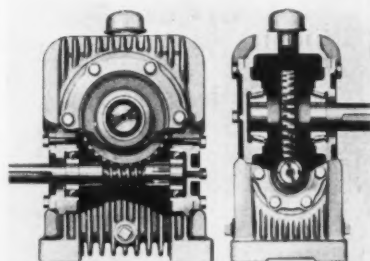
467

Tachometers For Machine Speed—Electric tachometers for permanent installation are designed specially for use where generators must be mounted permanently on machines and the motor mounted on a panel far removed from the generator position. Claimed to withstand momentary overloads up to four times the maximum speed indication without damage. *Ideal Industries, Inc., Sycamore, Ill.*

468

Hard Facing Equipment—A wear-resistant electrode for hard-facing all heavy equipment subjected to earth abrasion and impact differs from former "dipped type" electrodes in that it has a new extruded flux coating which improves welding characteristics and simplifies applications. Various other advantages are claimed for the electrode. *Stoody Company, c/o Dozier, Graham, Eastman, Los Angeles.*

469



• Compact speed reducers built around double enveloping Cone-Drive gearings with more teeth in contact and more contact per tooth than other right angle reduction gearings, now available. Various models and units. *Michigan Tool Company, Detroit 12, Michigan.*

470

Motorized Hand Truck—The Xpediter is of tubular frame construction, equipped with industrial tires and tubes, 3 hp. motor, 4-cycle air cooled. Interchangeable frames for barrel, side clamp or utility loading, 800 lbs. carrying capacity. *Xpediter Corp., Seattle 4, Wash.*

471

• Pneumatic and cushion type steel wheels can be used in wide variety of applications, such as shop carts, wheelbarrows and small trailers. Both heavy & light duty wheels available in either drop center all electric welded or flat base bolted type wheels. *Gar-Bro Wheel Company, Los Angeles 21, Cal.*



YOURS FOR THE ASKING

2034

Time Controls—Low cost time switches for the special needs of manufacturers with switching action, contact rating, mounting methods, adjustability and other features as desired are described in Bulletin T-55 announcing this addition to ATC's line of time controls. *Automatic Temperature Control Co., Inc., Philadelphia 44, Pennsylvania.*

2035

Magnetic Metals and Alloys—Discussion of physical and electrical characteristics of Westinghouse metals and alloys, including Hipernik, Conpernik, Hipercor, Hipersil and Puron, is given in a new 48-page, illustrated booklet. Also handled are electrode, filament and contact metals with properties and applications of tungsten, molybdenum and Cupaloy. Extensive tables on characteristics and properties are given in the booklet No. B-3369. *Westinghouse Electric Corp., Box 868, Pittsburgh 30, Pa.*

2036

Steel Hardening—Types of furnaces for various methods of steel hardening together with a photo micrograph of steel in the spheroidized and in the hardened state are shown in a 4-page bulletin No. SC-131 recently issued by *Surface Combustion Corp., Toledo 1, Ohio.*

2037

New Thermometers—Bulletins Nos. 46-2 and 46-3 give detailed descriptions and illustrations of new 4", 7", 9" and 12" thermometers on which a newly designed extruded brass case makes possible full reading scales. Double strength glass shield protects tube and keeps thermometer clean. Each model has a "red reading mercury" column. Write to *Palmer Thermometers, Inc., Cincinnati 12, Ohio.*

2038

To Speed Metal Fabrication—Contour machining and its application in metal working shops is demonstrated in a new booklet entitled "DoALL Equals Ten Plus." Of 22 pages in length, the booklet forms a ready reference on machining operations. Graphic comparisons show how life of machine tools can be lengthened by relieving them of "hogging" operations to be performed on DoALL machines. *The Do-ALL Company, Minneapolis 4, Minn.*

2039

Eutetic Welding—Both production and maintenance low temperature welding, in both light and heavy metals, is shown in a well illustrated special edition of "The Eutetic Welder." Those interested in getting late information on company-developed welding alloys and fluxes may obtain a copy of the publication by writing to *Eutetic Welding Alloys Corporation, New York 12, N. Y.*

2040

Pipe and Tubing Users—Uses for spirally formed lightweight tubing of four-ply, backbone construction are shown in a Pratt Industries, Inc. bulletin entitled "Big New Economies For Pipe and Tubing Users." The tubing is claimed to be cheap enough for use as forms for concrete pillars, posts and piers. One man can carry 60 feet in 20-foot lengths. *Pratt Industries, Inc., Frankfort, New York.*

2041

Grinding With Diamonds—Booth 3-Angle Automatic Self-Leveling Turret Diamond Holder is the name of a new tool now being marketed. Claims made in an illustrated folder are that the grinder operator secures the use of three points instead of one, thus constantly having his diamond in a sharp cutting position most beneficial for accuracy of work. *Diamond Tool Company, Chicago 15, Ill.*

2042

Automatic Heating Control—The "Moduflow" automatic heating control system is given a detailed description in a new company booklet titled "Comfort Unlimited." Applications of the "Moduflow" to zone control, radiant panel heating, solar heating, electric heating and air conditioning are discussed in detail as well as the applications to conventional methods of heating such as with steam, warm air and hot water. *Minneapolis-Honeywell Regulator Company, Minneapolis, Minn.*

2043

Steatite Insulators—Well illustrated, Catalog 2,000 gives the reader complete information on a large number of insulators for a variety of purposes. The catalog contains 48 pages. *General Ceramics and Steatite Corp., Keasby, N. J.*

2044

Power Slush Pump—Ruggedness and durability needed in modern drilling machinery are stressed in the slush pump, Ideal Type C-250, described in bulletin No. 321, of 16 pages. Chief feature of the pump is a patented intermediate baffle wall that, it is claimed, prevents mud contamination of crankcase oil. The piston rod, also, is said to give a positive seal between piston and rod without excessive strain in piston body. *The National Supply Company, P. O. Box 899A, Toledo 1, Ohio.*

2045

Cutting Speed Calculator—It looks like a slide rule, but it can tell you what the proper spindle speed is, and save a burned and broken tool. Ask for the Lawrence Cutting Speed Calculator. *Lawrence Engineering Service, Peru, Ind.*

2046

Safety is the Watchword—New industrial safety equipment, including safety goggles, gloves, mittens, a cover-mitt, handpads, a sleevelet, finger cots, spats and ladder shoes, described in literature available. *American Optical Company, Southbridge, Mass.*

2047

"What Thoughtful Management Can Learn From the Labor Viewpoint"—That's the title of an address by Ralph Chaplin, Tacoma labor editor, and made available to our readers by *Industrial Conference Board, Tacoma 2, Wash.*

2048

Do You Use Air Compressors?—Data on Scaife Air Receivers for air compressor service are contained in a new bulletin, No. 320, just published. The entire line of Scaife sizes is catalogued. Data includes capacities, working pressures and dimensions. *Scaife Company, Oakmont, Pa.*

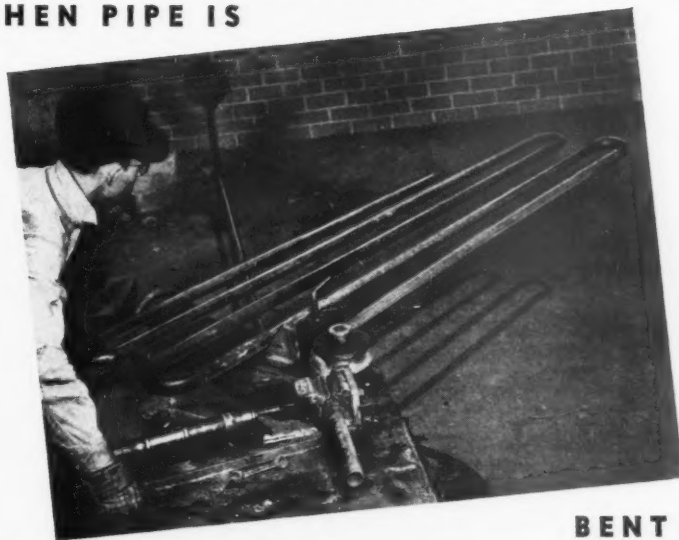
2049

Buyers' Guide to Metropolitan Oakland Area—Now in preparation is a Buyers' Guide which will list alphabetically all manufacturers, distributors, wholesalers and jobbers in the Metropolitan Oakland area. Includes a classified list of products manufactured in Alameda county. Guide will be ready late this summer. Available to all comers. *Domestic Trade Department, Oakland Chamber of Commerce, Oakland, Calif.*

2050

Hydraulic Jacks—A new line of Hydraulic Jacks, built of drop forged steel, is described in Bulletin 190-J on Joyce Liftmaster Nu-Hydro Jacks. Bulletin describes new features which include the pump piston of tool steel hardened and ground to a mirror-like polish, bronze guide bearing, and a simple mechanism. Handle is knurled and of interlocking type. *The Joyce-Cridland Co., Dayton 3, Ohio.*

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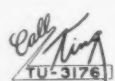
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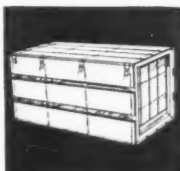
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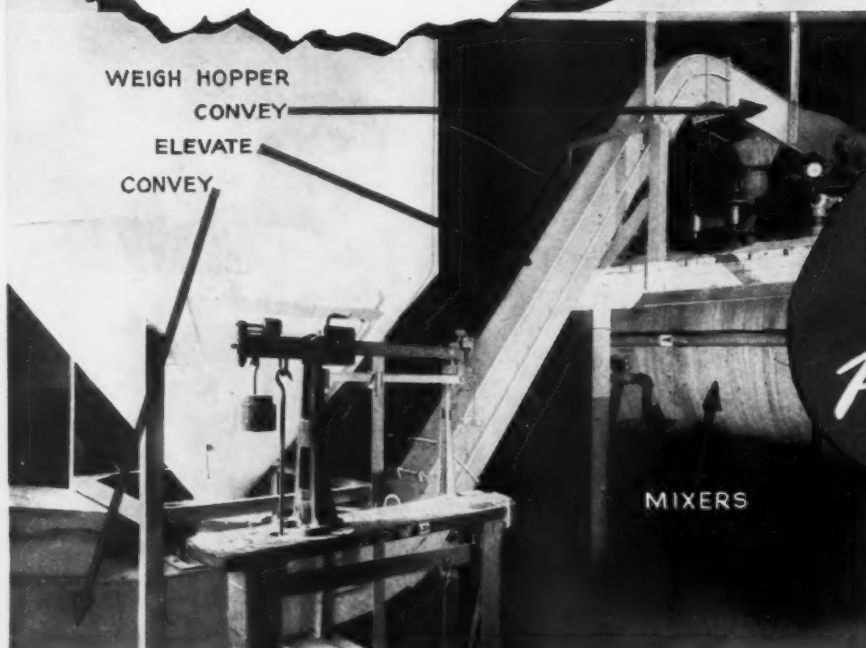
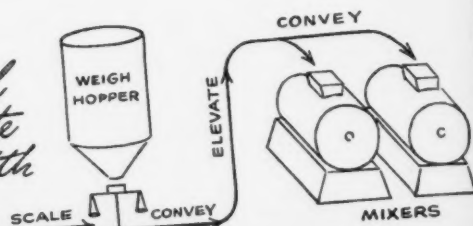
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